09/779,693

FILE 'HOME' ENTERED AT 14:01:37 ON 26 JUN 2002

=> file agricola biosis caplus caba

=> s hypersensitive response elicitor

L1 50 HYPERSENSITIVE RESPONSE ELICITOR

=> duplicate remove l1

L2 45 DUPLICATE REMOVE L1 (5 DUPLICATES REMOVED)

=> s l2 and erwinia

L3 25 L2 AND ERWINIA

=> d ti 1-25

L3 ANSWER 1 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI **Hypersensitive response elicitor** from **Erwinia** amylovora, its use, and encoding gene.

L3 ANSWER 2 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI **Hypersensitive response elicitor** from **Erwinia** amylovora and its use.

L3 ANSWER 3 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Harpin, a **hypersensitive response elicitor** from **Erwinia** amylovora, regulates ion channel activities in Arabidopsis thaliana suspension cells.

L3 ANSWER 4 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI **Hypersensitive response elicitor** from **Erwinia** chrysanthemi.

L3 ANSWER 5 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Global regulation by the small RNA-binding protein CsrA and the non-coding RNA molecule CsrB.

L3 ANSWER 6 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Treatment of tomato seed with harpin enhances germination and growth and induces resistance to Ralstonia solanacearum.

L3 ANSWER 7 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Effect of harpin on Arabidopsis thaliana.

L3 ANSWER 8 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Inhibition of desiccation of cuttings removed from ornamental plants by **hypersensitive response elicitor** protein or polypeptide

L3 ANSWER 9 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Expression of a **hypersensitive response elicitor** gene in combination with other transgenes in plants to improve growth, stress tolerance, disease or insect resistance

L3 ANSWER 10 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Treatment of fruits or vegetables with **hypersensitive response elicitor** to inhibit postharvest disease or desiccation

L3 ANSWER 11 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Plant harpin-binding protein and cDNA and transgenic plants with enhanced growth and insect, disease and stress resistance

L3 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Oomycete-resistant transgenic plants by virtue of pathogen-induced expression of a heterologous **hypersensitive response elicitor**

L3 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Methods of imparting stress resistance to plants with **hypersensitive response elicitor** proteins derived from fungal and bacterial pathogens

L3 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Sequences encoding fragments of microbial **hypersensitive response elicitor** proteins which are active but do not elicit a hypersensitive response, and their applications in plant genetic engineering

L3 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI **Hypersensitive response elicitor** from **Erwinia** amylovora and its use for plant genetic engineering

L3 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI **Hypersensitive response elicitor** from **Erwinia** amylovora and its use for plant genetic engineering

L3 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI **Hypersensitive response elicitor** from Pseudomonas syringae and its use for plant genetic engineering

L3 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI **Hypersensitive response elicitor** protein fragments and their use to enhance plant growth and protect plants from insects and disease

L3 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Insect control on plants with fungal hypersensitive response elicitors

L3 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Stimulating plant growth by application of hypersensitive response elicitors or by transformation with genes for their biosynthesis

L3 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Hypersensitive response-induced pathogen resistance in plants by seed treatment with elicitor proteins

L3 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Hypersensitive response induced resistance in plants

L3 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Developmental and pathogen-induced activation of an msr gene, str246C, from tobacco involves multiple regulatory elements

L3 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI Cloning of microbial gene for elicitor of the hypersensitive response in plants

L3 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2002 ACS
TI HrpI of **Erwinia** amylovora functions in secretion of harpin and is a member of a new protein family

=> d bib abs 3 4 6 7

L3 ANSWER 3 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2001:302811 BIOSIS
DN PREV200100302811
TI Harpin, a **hypersensitive response elicitor** from **Erwinia** amylovora, regulates ion channel activities in Arabidopsis thaliana suspension cells.
AU El-Maarouf, Hayat; Barny, Marie Anne; Rona, Jean Pierre; Bouteau, Francois (1)
CS (1) Laboratoire d'Electrophysiologie des Membranes, Universite Paris 7, 2 Place Jussieu, 75251, Paris Cedex 05: bouteau@ccr.jussieu.fr France
SO FEBS Letters, (25 May, 2001) Vol. 497, No. 2-3, pp. 82-84. print. ISSN: 0014-5793.
DT Article
LA English
SL English
AB HrpN, the **hypersensitive response elicitor** from **Erwinia** amylovora, stimulated K+ outward rectifying currents in Arabidopsis thaliana suspension cells. It also decreased anion currents. These data demonstrate the ability of harpin to regulate different plasma membrane ion channels, putative components of signal transduction chains leading to defense responses and programmed cell death.

L3 ANSWER 4 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1999:72154 BIOSIS
DN PREV199900072154
TI **Hypersensitive response elicitor** from **Erwinia** chrysanthemi.
AU Bauer, D.; Collmer, A.
CS Ithaca, N.Y. USA
ASSIGNEE: CORNELL RESEARCH FOUNDATION, INC.
PI US 5850015 Dec. 15, 1998
SO Official Gazette of the United States Patent and Trademark Office Patents, (Dec. 15, 1998) Vol. 1217, No. 3, pp. 2676. ISSN: 0098-1133.

DT Patent
LA English

L3 ANSWER 6 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1997:329607 BIOSIS
DN PREV199799628810
TI Treatment of tomato seed with harpin enhances germination and growth and induces resistance to Ralstonia solanacearum.
AU Qiu, D.; Wei, Z.-M.; Bauer, D. W.; Beer, S. V.
CS Dep. Plant Pathol., Cornell Univ., Ithaca, NY 14853 USA
SO Phytopathology, (1997) Vol. 87, No. 6 SUPPL., pp. S80.
Meeting Info.: Annual Meeting of the American Phytopathological Society Rochester, New York, USA August 9-13, 1997
ISSN: 0031-949X.
DT Conference; Abstract
LA English

L3 ANSWER 7 OF 25 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1997:329207 BIOSIS
DN PREV199799628410
TI Effect of harpin on Arabidopsis thaliana.
AU Dong, H.; Bauer, D. W.; Delaney, T. P.; Beer, S. V.
CS Dep. Plant Pathol., Cornell Univ., Ithaca, NY 14853 USA
SO Phytopathology, (1997) Vol. 87, No. 6 SUPPL., pp. S24-S25.
Meeting Info.: Annual Meeting of the American Phytopathological Society Rochester, New York, USA August 9-13, 1997
ISSN: 0031-949X.
DT Conference; Abstract
LA English

=> logoff hold

FILE 'HOME' ENTERED AT 15:35:23 ON 26 JUN 2002

=> file agricola biosis caplus caba

=> s hypersensitive response

L1 3778 HYPERSENSITIVE RESPONSE

=> s l1 and (oomycete or phytophthora or plasmopera or plasmopara or peronospora or bremia or phythium)

L2 470 L1 AND (OOMYCETE OR PHYTOPHTHORA OR PLASMOPERA OR PLASMOPARA OR PERONOSPORA OR BREMIA OR PHYTHIUM)

=> duplicate remove l2

L3 242 DUPLICATE REMOVE L2 (228 DUPLICATES REMOVED)

=> d ti 1-50

L3 ANSWER 1 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Inhibition of desiccation of cuttings removed from ornamental plants by **hypersensitive response** elicitor protein or polypeptide

L3 ANSWER 2 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Arabidopsis: A laboratory manual.

L3 ANSWER 3 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
TI Isolation and characterization of broad-spectrum disease-resistant Arabidopsis mutants.

L3 ANSWER 4 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
TI RIN4 interacts with Pseudomonas syringae type III effector molecules and is required for RPM1-mediated resistance in Arabidopsis.

L3 ANSWER 5 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Structure-function analysis of **phytophthora** parasitica elicitins

L3 ANSWER 6 OF 242 CABA COPYRIGHT 2002 CABI
TI Molecular and cellular biology of resistance to **Phytophthora** infestans in Solanum species.

L3 ANSWER 7 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Expression of a **hypersensitive response** elicitor gene in combination with other transgenes in plants to improve growth, stress tolerance, disease or insect resistance

L3 ANSWER 8 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Treatment of fruits or vegetables with **hypersensitive response** elicitor to inhibit postharvest disease or desiccation

L3 ANSWER 9 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Plant harpin-binding protein and cDNA and transgenic plants with enhanced growth and insect, disease and stress resistance

L3 ANSWER 10 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI **Oomycete**-resistant transgenic plants by virtue of pathogen-induced expression of a heterologous **hypersensitive response** elicitor

L3 ANSWER 11 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Arabidopsis thaliana cyclic nucleotide-gated ion channel CNGC/DND and genes and their use as regulators of plant disease resistance and cell death

L3 ANSWER 12 OF 242 AGRICOLA DUPLICATE 3
TI Direct interaction between the Arabidopsis disease resistance signaling proteins, EDS1 and PAD4.

L3 ANSWER 13 OF 242 AGRICOLA DUPLICATE 4
TI A humidity-sensitive Arabidopsis copine mutant exhibits precocious cell death and increased disease resistance.

L3 ANSWER 14 OF 242 AGRICOLA
TI The disease resistance signaling components EDS1 and PAD4 are essential regulators of the cell death pathway controlled by LSD1 in Arabidopsis.

L3 ANSWER 15 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 5
TI The matrix metalloproteinase gene GmMMP2 is activated in response to pathogenic infections in soybean.

L3 ANSWER 16 OF 242 AGRICOLA DUPLICATE 6
TI A harpin binding site in tobacco plasma membranes mediates activation of the pathogenesis-related gene HIN1 independent of extracellular calcium but dependent on mitogen-activated protein kinase activity.

L3 ANSWER 17 OF 242 AGRICOLA
TI Suppression of the ribosomal L2 gene reveals a novel mechanism for stress adaptation in soybean.

L3 ANSWER 18 OF 242 AGRICOLA
TI Activation of a mitogen-activated protein kinase pathway is involved in disease resistance in tobacco.

L3 ANSWER 19 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 7
TI Histochemical detection and role of phenolic compounds in the defense response of Lactuca spp. to lettuce downy mildew (**Bremia** lactucae.

L3 ANSWER 20 OF 242 AGRICOLA DUPLICATE 8
TI Disruption of microtubular cytoskeleton induced by cryptogein, an elicitor of **hypersensitive response** in tobacco cells.

L3 ANSWER 21 OF 242 AGRICOLA
TI Aggressiveness to pumpkin cultivars of isolates of **Phytophthora** capsici from pumpkin and pepper.

L3 ANSWER 22 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 9
TI A local accumulation of the Ralstonia solanacearum PopA protein in transgenic tobacco renders a compatible plant-pathogen interaction incompatible.

L3 ANSWER 23 OF 242 AGRICOLA DUPLICATE 10
TI Elicitin genes expressed in vitro by certain tobacco isolates of **Phytophthora** parasitica are down regulated during compatible interactions.

L3 ANSWER 24 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 11
TI A new cell wall located N-rich protein is strongly induced during the **hypersensitive response** in Glycine max L.

L3 ANSWER 25 OF 242 AGRICOLA DUPLICATE 12
TI Free and conjugated benzoic acid in tobacco plants and cell cultures. Induced accumulation upon elicitation of defense responses and role as salicylic acid precursors.

L3 ANSWER 26 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Nonhost resistance to **Phytophthora**: novel prospects for a classical problem

L3 ANSWER 27 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 13
TI Characterization of an Arabidopsis-**Phytophthora** pathosystem: Resistance requires a functional PAD2 gene and is independent of salicylic acid, ethylene and jasmonic acid signalling.

L3 ANSWER 28 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 14
TI Identification of soybean elicitation competency factor, CF-1, as the soybean Kunitz trypsin inhibitor.

L3 ANSWER 29 OF 242 AGRICOLA DUPLICATE 15
TI Syringicin, a new alpha-elicitin from an isolate of **Phytophthora** syringae, pathogenic to citrus fruit.

L3 ANSWER 30 OF 242 AGRICOLA DUPLICATE 16
TI Relationship between transmembrane ion movements, production of reactive oxygen species and the **hypersensitive response** during the challenge of tobacco suspension cells by zoospores of **Phytophthora** nicotianae.

L3 ANSWER 31 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Resistance to Turnip crinkle virus: Understanding defense signaling against a viral pathogen of Arabidopsis.

L3 ANSWER 32 OF 242 AGRICOLA DUPLICATE 17
TI HSR203 antisense suppression in tobacco accelerates development of hypersensitive cell death.

L3 ANSWER 33 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Roles of elicitins in the biology of **Phytophthora**

L3 ANSWER 34 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 18
TI White rust (Albugo candida) resistance loci on three Arabidopsis chromosomes are closely linked to downy mildew (**Peronospora** parasitica) resistance loci.

L3 ANSWER 35 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI The complexity of disease signaling in Arabidopsis.

L3 ANSWER 36 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Resistance to turnip crinkle virus: Understanding defense signaling against a viral pathogen of Arabidopsis.

L3 ANSWER 37 OF 242 AGRICOLA DUPLICATE 19
TI Relative roles of glyceollin, lignin and the **hypersensitive response** and the influences of ABA in compatible and incompatible interactions of soybeans with **Phytophthora** sojae.

L3 ANSWER 38 OF 242 CABA COPYRIGHT 2002 CABI
TI Identification of potato genes involved in **Phytophthora** infestans resistance by transposon mutagenesis.

L3 ANSWER 39 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Development and selection of novel plant disease resistance genes by DNA shuffling

L3 ANSWER 40 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Proteins eliciting a **hypersensitive response** from Agrobacterium vitis and the genes encoding them and their uses

L3 ANSWER 41 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Methods of imparting stress resistance to plants with **hypersensitive response** elicitor proteins derived from fungal and bacterial pathogens

L3 ANSWER 42 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Sequences encoding fragments of microbial **hypersensitive response** elicitor proteins which are active but do not elicit a **hypersensitive response**, and their applications in plant genetic engineering

L3 ANSWER 43 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Method of identifying non-host disease resistance genes in plants and characterization of such genes and protein products in tobacco

L3 ANSWER 44 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Plant regulatory elements involved in the **hypersensitive response** to infection and their uses

L3 ANSWER 45 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Improving plant disease resistance using conventional plant breeding, genetic engineering, and chemical induction of the endogenous **hypersensitive response**

L3 ANSWER 46 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 20
TI Potentiation of pathogen-specific defense mechanisms in Arabidopsis by beta-aminobutyric acid.

L3 ANSWER 47 OF 242 AGRICOLA
TI Roles of salicylic acid, jasmonic acid, and ethylene in cpr-induced resistance in Arabidopsis.

L3 ANSWER 48 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Enhanced late blight resistance of transgenic potato expressing glucose oxidase under the control of pathogen-inducible promoter

L3 ANSWER 49 OF 242 AGRICOLA DUPLICATE 21
TI A leaf lipoxygenase of potato induced specifically by pathogen infection.

L3 ANSWER 50 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Active oxygen species in plant disease resistance.

=> d bib abs 42 43 1 6 7 9

L3 ANSWER 42 OF 242 CAPLUS COPYRIGHT 2002 ACS
AN 2000:241283 CAPLUS
DN 132:275186
TI Sequences encoding fragments of microbial **hypersensitive response** elicitor proteins which are active but do not elicit a **hypersensitive response**, and their applications in plant genetic engineering
IN Wei, Zhong-Min; Fan, Hao; Niggemeyer, Jennifer L.
PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 100 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000020452	A2	20000413	WO 1999-US23181	19991005
	WO 2000020452	A3	20000706		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9965085	A1	20000426	AU 1999-65085	19991005
	BR 9915345	A	20010731	BR 1999-15345	19991005
	EP 1119582	A2	20010801	EP 1999-953057	19991005
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	NO 2001001729	A	20010605	NO 2001-1729	20010405
PRAI	US 1998-103050P	P	19981005		
	WO 1999-US23181	W	19991005		

AB The invention provides sequences encoding active fragments of a **hypersensitive response** elicitor protein which does not elicit a **hypersensitive response** in plants. Specifically, the fragments are derived from **hypersensitive response** elicitor proteins from Erwinia amylovora (gene hrpN) and/or Pseudomonas syringae (gene hrpZ). Isolated fragments of **hypersensitive response** elicitor proteins have the following activities: imparting disease resistance to plants, enhancing plant growth, and/or controlling insects on plants. This can be achieved by applying the fragments of a **hypersensitive response** elicitor in a non-infectious form to plants or plant seeds, or by using transgenic plants or plant seeds transformed with a DNA mol. encoding the **hypersensitive response** elicitor fragment.

L3 ANSWER 43 OF 242 CAPLUS COPYRIGHT 2002 ACS

AN 2000:161474 CAPLUS
DN 132:204015
TI Method of identifying non-host disease resistance genes in plants and characterization of such genes and protein products in tobacco
IN Rommens, Caius M. T.; Swords, Kathleen M. M.; Yan, Hua; Zhang, Bei
PA Monsanto Co., USA
SO PCT Int. Appl., 94 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000012736	A2	20000309	WO 1999-US19899	19990831
	WO 2000012736	A3	20001005		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9957960	A1	20000321	AU 1999-57960	19990831
	BR 9913653	A	20010605	BR 1999-13653	19990831
	EP 1108044	A2	20010620	EP 1999-945345	19990831
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	US 1998-98402P	P	19980831		
	WO 1999-US19899	W	19990831		

AB The invention describes a new method to isolate disease resistance genes in plants. The method comprises transient expression in susceptible plants (e.g., Nicotiana benthamiana) of large nos. of R-gene homologs or non-host inducible genes isolated from non-host resistant plants. These plants can be screened for either disease resistance or ability to respond with a **hypersensitive response** to pathogen-elicitor subjection. The invention also reports several R-genes and non-host inducible genes that have been successfully isolated from tobacco using the described method. These R-genes trigger a **hypersensitive response** in tobacco that is dependent on the presence of the ubiquitous **Phytophthora** infestans elicitor INF1 (the pathogen responsible for late blight disease in potato). Class I R-genes encode proteins with a nucleotide-binding site and a conserved stretch of amino acids with the consensus sequence GLPLAL, and class II R-genes encode proteins with a conserved putative membrane anchor. The presented R-genes are predicted to be both the first R-genes isolated that confer resistance against P. infestans and the first R -genes involved in non-host resistance. A protein factor designated Nhr1 that interacts with the P. infestans elicitor INF1 was also cloned and sequenced, as well as a protein designated TOB-F2 that controls wild fire disease caused by the Pseudomonas tabaci pathogen.

L3 ANSWER 1 OF 242 CAPLUS COPYRIGHT 2002 ACS
AN 2002:368228 CAPLUS
DN 136:365289
TI Inhibition of desiccation of cuttings removed from ornamental plants by **hypersensitive response** elicitor protein or polypeptide
IN Wei, Zhong-Min; Leon, Ernesto; Oviedo, Agustin
PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002037960	A2	20020516	WO 2001-US43715	20011106
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 2000-248169P	P	20001113		

AB Desiccation of cuttings removed from ornamental plants is inhibited by treating the cutting with a **hypersensitive response** elicitor protein or polypeptide derived from plant pathogen. The ornamental plants can be transgenic plants which express a heterologous

hypersensitive response elicitor protein or polypeptide or the ornamental plants can be treated via topical application with a **hypersensitive response** elicitor protein or polypeptide. Alternatively, cuttings from the ornamental plant can be treated with a **hypersensitive response** elicitor protein or polypeptide, independent of any treatment provided to the ornamental plant from which the cutting is removed.

L3 ANSWER 6 OF 242 CABA COPYRIGHT 2002 CABI
AN 2001:52829 CABA
DN 20013028265
TI Molecular and cellular biology of resistance to **Phytophthora** infestans in Solanum species
AU Vleeshouwers, V. G. A. A.
SO Molecular and cellular biology of resistance to Phytophthora infestans in Solanum species, (2001) pp. vi. + 136. Many ref.
Publisher: Landbouwuniversiteit Wageningen (Wageningen Agricultural University). Wageningen
ISBN: 90-5808-350-0
CY Netherlands Antilles
DT Dissertation
LA English
SL Dutch
AB Resistance to **Phytophthora** infestans was studied in potato and wild Solanum species, with an emphasis on molecular and cellular biology of the plant-pathogen interaction. A cytological survey was carried out on the resistance responses of Solanum plants to various isolates of P. infestans. The **hypersensitive response** was always associated with resistance and the severity of this response varied between different plants. Variation in the growth rates of **hypersensitive response** lesions between plants suggested that defence mechanisms other than the **hypersensitive response** operated at different levels. Pathogenesis-related gene expression levels were used as molecular markers to measure systemic acquired resistance levels. The plant components of the molecular interaction in the **hypersensitive response** were further studied, with emphasis on the R genes and the Pto kinases. Analysis of the amino acid sequence characteristics revealed that the Pto-like sequences are highly conserved.

L3 ANSWER 7 OF 242 CAPLUS COPYRIGHT 2002 ACS
AN 2001:923552 CAPLUS
DN 136:51265
TI Expression of a **hypersensitive response** elicitor gene in combination with other transgenes in plants to improve growth, stress tolerance, disease or insect resistance
IN Wei, Zhong-Min; Derocher, Jay
PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001095724	A2	20011220	WO 2001-US18955	20010613
	WO 2001095724	A3	20020530		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 2002059658	A1	20020516	US 2001-880371	20010613
PRAI	US 2000-211585P	P	20000615		

AB The present invention relates to methods of improving the effectiveness of transgenic plants, either by maximizing the benefit of transgenic trait in transgenic plants or overcoming deleterious effects on growth, stress tolerance, disease resistance, or insect resistance in transgenic plants expressing a transgenic trait. By applying a **hypersensitive response** elicitor protein or polypeptide to a transgenic plant expressing a transgene which confers a transgenic trait, or by prepg. a transgenic plant expressing both a transgene which confers a transgenic trait and a second transgene which confers **hypersensitive response** elicitor expression, it is possible to realize the max. benefit of the transgenic trait or overcome deleterious effects on growth, stress tolerance, disease or insect resistance, male sterility, modified flower color or biochem. modified plant products which result from or accompany expression of the transgene conferring the transgenic trait.

The **hypersensitive response** elicitor protein can be applied to the plant or seed at a concn. greater than 0.5 nM by spraying, injection, dusting, immersion or leaf abrasion in water, aq. solns., slurries or powder.

L3 ANSWER 9 OF 242 CAPLUS COPYRIGHT 2002 ACS
AN 2001:713571 CAPLUS
DN 135:269069
TI Plant harpin-binding protein and cDNA and transgenic plants with enhanced growth and insect, disease and stress resistance
IN Song, Xiaoling; Fan, Hao; Wei, Zhong-Min
PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 78 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001070988	A2	20010927	WO 2001-US8728	20010319
	WO 2001070988	A3	20020404		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

	US 2002007501	A1	20020117	US 2001-810997	20010316
PRAI	US 2000-191649P	P	20000323		
	US 2000-250710P	P	20001201		

AB The present invention is directed to an isolated protein which serves as a receptor in plants for a plant pathogen **hypersensitive response** elicitor. Also disclosed are nucleic acid mols. encoding such receptors as well as expression vectors, host cells, transgenic plants, and transgenic plant seeds contg. such nucleic acid mols. Both the protein and nucleic acid can be used to identify agents targeting plant cells to enhance a plant's receptivity to treatment with a **hypersensitive response** elicitor and to directly impart plant growth enhancement as well as resistance against disease, insects, and stress. Thus, the Arabidopsis thaliana cDNA and gene for Erwinia amylovora harpin-binding protein HrBP1 were cloned and sequenced. A partial cDNA for the rice HrBP1 homolog was also cloned and sequenced. HrBP1 was found everywhere is the A. thaliana plant. HrBP1 mRNA was found in many different plants (monocots as well as dicots). Silencing of HrBP1 expression in A. thaliana enhanced its resistance to Pseudomonas syringae p.v. tomato infection. Overexpression of HrBP1 in tobacco resulted in enhanced resistance to tobacco mosaic virus.

=> d ti 51-100

L3 ANSWER 51 OF 242 AGRICOLA DUPLICATE 22
TI The **hypersensitive response** is associated with host and nonhost resistance to **Phytophthora** infestans.

L3 ANSWER 52 OF 242 AGRICOLA DUPLICATE 23
TI In vivo imaging of an elicitor-induced nitric oxide burst in tobacco.

L3 ANSWER 53 OF 242 AGRICOLA DUPLICATE 24
TI Members of the Arabidopsis HRT/RPP8 family of resistance genes confer resistance to both viral and **oomycete** pathogens.

L3 ANSWER 54 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 25
TI Active oxygen species as mediators of plant immunity: Three case studies.

L3 ANSWER 55 OF 242 AGRICOLA
TI Reactions in the annual Medicago core germ plasm collection to two isolates of **Peronospora** trifoliorum from alfalfa.

L3 ANSWER 56 OF 242 AGRICOLA
TI Oligandrin. A proteinaceous molecule produced by the mycoparasite Pythium oligandrum induces resistance to **Phytophthora** parasitica infection in tomato plants.

L3 ANSWER 57 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 26
TI Crystallization and preliminary X-ray diffraction analysis of

beta-cinnamomin, an elicitin secreted by the phytopathogenic fungus **Phytophthora** cinnamomin.

L3 ANSWER 58 OF 242 AGRICOLA DUPLICATE 27
TI Identification of arabidopsis mutants exhibiting an altered **hypersensitive response** in gene-for-gene disease resistance.

L3 ANSWER 59 OF 242 AGRICOLA
TI Gene-for-gene specificity expressed in planta is preserved in cell cultures of Nicotiana tabacum inoculated with zoospores of **Phytophthora** nicotianae.

L3 ANSWER 60 OF 242 AGRICOLA DUPLICATE 28
TI Three unique mutants of Arabidopsis identify eds loci required for limited growth of a biotrophic fungal pathogen.

L3 ANSWER 61 OF 242 AGRICOLA
TI Cloning, expression and characterization of protein elicitors from the soyabean pathogenic fungus **Phytophthora** sojae.

L3 ANSWER 62 OF 242 AGRICOLA DUPLICATE 29
TI Isolation, partial sequencing, and expression of pathogenesis-related cDNA genes from pepper leaves infected by Xanthomonas campestris pv. vesicatoria.

L3 ANSWER 63 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Reactive oxygen, NDR1 and NPR1 in Arabidopsis disease resistance signaling.

L3 ANSWER 64 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 30
TI Pepper gene encoding a basic beta-1,3-glucanase is differentially expressed in pepper tissues upon pathogen infection and ethephon or methyl jasmonate treatment.

L3 ANSWER 65 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Pathogen-inducible promoters from hexose oxidase genes of sunflower and lettuce

L3 ANSWER 66 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI A cysteine protease gene is expressed early in resistant potato interactions with **Phytophthora** infestans.

L3 ANSWER 67 OF 242 AGRICOLA DUPLICATE 31
TI Characterization of a new Arabidopsis mutant exhibiting enhanced disease resistance.

L3 ANSWER 68 OF 242 AGRICOLA
TI Involvement of specific calmodulin isoforms in salicylic acid-independent activation of plant disease resistance responses.

L3 ANSWER 69 OF 242 AGRICOLA
TI **Phytophthora** infestans secretes extracellular proteases with necrosis inducing activity on potato.

L3 ANSWER 70 OF 242 AGRICOLA
TI Elicitin 172 from an isolate of **Phytophthora** nicotianae pathogenic to tomato.

L3 ANSWER 71 OF 242 AGRICOLA
TI Inhibition of protoporphyrinogen oxidase expression in Arabidopsis causes a lesion-mimic phenotype that induces systemic acquired resistance.

L3 ANSWER 72 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 32
TI Involvement of plasma membrane proteins in plant defense responses. Analysis of the cryptogein signal transduction in tobacco.

L3 ANSWER 73 OF 242 AGRICOLA DUPLICATE 33
TI Relationship between localized acquired resistance (LAR) and the **hypersensitive response** (HR): HR is necessary for LAR to occur and salicylic acid is not sufficient to trigger LAR.

L3 ANSWER 74 OF 242 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 34
TI Induced defense mechanisms in plant-fungus interactions: differences between cells in culture and leaf tissue

L3 ANSWER 75 OF 242 AGRICOLA DUPLICATE 35
TI The fungal gene Avr9 and the **oomycete** gene inf1 confer avirulence to potato virus X on tobacco.

L3 ANSWER 76 OF 242 AGRICOLA DUPLICATE 36
TI QTL for field resistance to late blight in potato are strongly correlated with maturity and vigour.

L3 ANSWER 77 OF 242 AGRICOLA DUPLICATE 37
TI Isolation of potato genes that are induced during an early stage of the **hypersensitive response** to **Phytophthora** infestans.

L3 ANSWER 78 OF 242 AGRICOLA
TI Local and systemic activity of BABA (DL-3-aminobutyric acid) against **Plasmopara** viticola in grapevines.

L3 ANSWER 79 OF 242 AGRICOLA
TI Accumulation of defense related transcripts in sunflower hypocotyls (Helianthus annuus L.) infected with **Plasmopara** halstedii.

L3 ANSWER 80 OF 242 AGRICOLA
TI Suppressors of the Arabidopsis lsd5 cell death mutation identify genes involved in regulating disease resistance responses.

L3 ANSWER 81 OF 242 AGRICOLA DUPLICATE 38
TI Response of solanaceous cultivated plants and weed species to inoculation with A1 or A2 mating type strains of **Phytophthora** infestans.

L3 ANSWER 82 OF 242 CABA COPYRIGHT 2002 CABI
TI New approaches to the development of transgenic plants resistant to fire blight.

L3 ANSWER 83 OF 242 AGRICOLA
TI Inheritance of downy mildew resistance in table grapes.

L3 ANSWER 84 OF 242 AGRICOLA DUPLICATE 39
TI Pathogen-induced elicitin production in transgenic tobacco generates a **hypersensitive response** and nonspecific disease resistance.

L3 ANSWER 85 OF 242 AGRICOLA DUPLICATE 40
TI Harpin induces disease resistance in Arabidopsis through the systemic acquired resistance pathway mediated by salicylic acid and the NIM1 gene.

L3 ANSWER 86 OF 242 AGRICOLA DUPLICATE 41
TI Resistance to oomycetes: a general role for the **hypersensitive response**?

L3 ANSWER 87 OF 242 AGRICOLA DUPLICATE 42
TI Hydrogen peroxide from the oxidative burst is neither necessary nor sufficient for hypersensitive cell death induction, phenylalanine ammonia lyase stimulation, salicylic acid accumulation, or scopoletin consumption in cultured tobacco cells treated with elicitin.

L3 ANSWER 88 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 43
TI Expression of the chimeric pea PSPAL2 promoter in transgenic tobacco in response to fungal ingress and injury.

L3 ANSWER 89 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 44
TI Reduction of lesion growth rate of late blight plant disease in transgenic potato expressing harpin protein.

L3 ANSWER 90 OF 242 AGRICOLA DUPLICATE 45
TI Initial assessment of gene diversity for the **oomycete** pathogen **Phytophthora** infestans based on expressed sequences.

L3 ANSWER 91 OF 242 AGRICOLA DUPLICATE 46
TI Involvement of actin filament association in hypersensitive reactions in potato cells.

L3 ANSWER 92 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Insect control on plants with fungal **hypersensitive response** elicitors

L3 ANSWER 93 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Stimulating plant growth by application of **hypersensitive response** elicitors or by transformation with genes for their biosynthesis

L3 ANSWER 94 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI **Hypersensitive response**-induced pathogen resistance in plants by seed treatment with elicitor proteins

L3 ANSWER 95 OF 242 AGRICOLA
TI Gene-for-gene disease resistance without the **hypersensitive response** in Arabidopsis dnd1 mutant.

L3 ANSWER 96 OF 242 AGRICOLA DUPLICATE 47
TI Heterologous expression of a basic elicitin from **Phytophthora** cryptogea in **Phytophthora** infestans increases its ability to cause leaf necrosis in tobacco.

L3 ANSWER 97 OF 242 AGRICOLA
TI A mutation within the leucine-rich repeat domain of the Arabidopsis disease resistance gene RPS5 partially suppresses multiple bacterial and downy mildew resistance genes.

L3 ANSWER 98 OF 242 AGRICOLA DUPLICATE 48
TI Resistance of Nicotiana benthamiana to **Phytophthora** infestans is mediated by the recognition of the elicitor protein INF1.

L3 ANSWER 99 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 49
TI Loss of production of the elicitor protein INF1 in the clonal lineage US-1 of **Phytophthora** infestans.

L3 ANSWER 100 OF 242 AGRICOLA DUPLICATE 50
TI Activation of plant defense responses and sugar efflux by expression of pyruvate decarboxylase in potato leaves.

=> d bib abs 98 96 94 92 86 84 61 51

L3 ANSWER 98 OF 242 AGRICOLA DUPLICATE 48
AN 1999:17931 AGRICOLA
DN IND21969508
TI Resistance of Nicotiana benthamiana to **Phytophthora** infestans is mediated by the recognition of the elicitor protein INF1.
AU Kamoun, S.; West, P. van.; Vleeshouwers, V.G.A.A.; Groot, K.E. de.; Govers, F.
CS Ohio State University, Wooster, OH.
AV DNAL (QK725.P532)
SO The Plant cell, Sept 1998. Vol. 10, No. 9. p. 1413-1425
Publisher: [Rockville, MD : American Society of Plant Physiologists, c1989-
CODEN: PLCEEW; ISSN: 1040-4651
NTE Includes references
CY Maryland; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB **Phytophthora** infestans, the agent of potato and tomato late blight disease, produces a 10-kD extracellular protein, INF1 elicitin. INF1 induces a **hypersensitive response** in a restricted number of plants, particularly those of the genus Nicotiana. In virulence assays with different P. infestans isolates, five Nicotiana species displayed resistance responses. In all of the interactions, after inoculation with P. infestans zoospores, penetration of an epidermal cell was observed, followed by localized necrosis typical of a **hypersensitive response**. To determine whether INF1 functions as an avirulence factor in these interactions, we adopted a gene-silencing strategy to inhibit INF1 production. Several transformants deficient in inf1 mRNA and INF1 protein were obtained. These strains remained pathogenic on host plants. However, in contrast to the wild-type and control transformant strains, INF1-deficient strains induced disease lesions when inoculated on N. benthamiana. These results demonstrate that the elicitin INF1 functions as an avirulence factor in the interaction between N. benthamiana and P. infestans.

L3 ANSWER 96 OF 242 AGRICOLA DUPLICATE 47
AN 1999:30611 AGRICOLA
DN IND21977194
TI Heterologous expression of a basic elicitin from **Phytophthora** cryptogea in **Phytophthora** infestans increases its ability to cause leaf necrosis in tobacco.
AU Panabieres, F.; Birch, P.R.J.; Unkles, S.E.; Ponchet, M.; Lacourt, I.; Venard, P.; Keller, H.; Allasia, V.; Ricci, P.; Duncan, J.M.
CS Scottish Crop Research Institute, Dundee, UK.
AV DNAL (QR1.J64)
SO Microbiology, Dec 1998. Vol. 144, No. pt.12. p. 3343-3349
Publisher: Reading, U.K. : Society for General Microbiology, c1994-
CODEN: MROBEO; ISSN: 1350-0872
NTE Includes references
CY England; United Kingdom

DT Article
FS Non-U.S. Imprint other than FAO
LA English
AB The cry-b sequence encoding a basic elicitin (cryptogein B) from **Phytophthora** cryptogea, was co-transformed into **Phytophthora** infestans. The copy number of the cry-b sequence varied in co-transformants. Nevertheless, in all cases the alien elicitin gene was transcribed, translated and the protein secreted in vitro from such transformants. Moreover, the secreted cryptogein B from P. infestans co-transformants increased their ability to cause a **hypersensitive response**-like necrosis of tobacco leaves. It was thus concluded that the transfer of a single gene encoding a basic elicitin from one **Phytophthora** species to another can dramatically alter the phenotypic interaction of the transformed species with tobacco.

L3 ANSWER 94 OF 242 CAPLUS COPYRIGHT 2002 ACS
AN 1998:394160 CAPLUS
DN 129:64305
TI **Hypersensitive response**-induced pathogen resistance in plants by seed treatment with elicitor proteins
IN Qiu, Dewen; Wei, Zhong-Min; Beer, Steven V.
PA Cornell Research Foundation, Inc., USA
SO PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9824297	A1	19980611	WO 1997-US22629	19971204
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 6235974	B1	20010522	US 1997-984207	19971203
	AU 9856935	A1	19980629	AU 1998-56935	19971204
	AU 744776	B2	20020307		
	EP 957672	A1	19991124	EP 1997-953129	19971204
	R: CH, DE, DK, ES, FR, GB, LI, NL, SE				
	BR 9713861	A	20000314	BR 1997-13861	19971204
	JP 2001506491	T2	20010522	JP 1998-525888	19971204
	FI 9901277	A	19990727	FI 1999-1277	19990604
PRAI	US 1996-33230P	P	19961205		
	WO 1997-US22629	W	19971204		

AB The present invention relates to a method of imparting pathogen resistance to plants. This involves applying a **hypersensitive response** elicitor polypeptide or protein in a non-infectious form to a plant seed under conditions where the polypeptide or protein contacts cells of the plant seed. The present invention is also directed to a pathogen resistance imparting plant seed. Alternatively, transgenic plant seeds contg. a DNA mol. encoding a **hypersensitive response** elicitor polypeptide or protein can be planted in soil and a plant can be propagated from the planted seed under conditions effective to impart pathogen resistance to the plant. Elicitor proteins and their gene sequences are provided from Erwinia chrysanthemi, E. amylovora, Pseudomonas syringae, P. solanacearum, Xanthomonas campestris cv. glycines, and X. campestris cv. pelargonii.

L3 ANSWER 92 OF 242 CAPLUS COPYRIGHT 2002 ACS
AN 1998:603208 CAPLUS
DN 129:226970
TI Insect control on plants with fungal **hypersensitive response** elicitors
IN Zitter, Thomas A.; Wei, Zhong-min
PA Cornell Research Foundation, Inc., USA
SO PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9837752	A1	19980903	WO 1998-US3604	19980226
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

US 5977060	A	19991102	US 1998-30270	19980225
AU 9866664	A1	19980918	AU 1998-66664	19980226
AU 740564	B2	20011108		
BR 9807632	A	20000222	BR 1998-7632	19980226
EP 1028616	A1	20000823	EP 1998-908700	19980226
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001519778	T2	20011023	JP 1998-537779	19980226
FI 9901824	A	19991026	FI 1999-1824	19990827
PRAI US 1997-39226P	P	19970228		
WO 1998-US3604	W	19980226		

AB The present invention relates to a method of controlling insects on plants. This involves applying a **hypersensitive response** elicitor polypeptide or protein in a non-infectious form to a plant or plant seed under conditions effective to control insects on the plant or plants produced from the plant seed. Alternatively, transgenic plants or transgenic plant seeds transformed with a DNA mol. encoding a **hypersensitive response** elicitor polypeptide or protein can be provided and the transgenic plants or plants resulting from the transgenic plant seeds are grown under conditions effective to control insects. Thus, tobacco seedlings generated from harpin-soaked seeds (an elicitor from Erwinia amylovora) are far more resistant to aphid infection than control plants. Similarly, cotton aphids (Aphis gossypii) are controlled by foliar application of HP-1000 (a hypersensitive elicitor from Erwinia amylovora) on cotton plants.

L3 ANSWER 86 OF 242 AGRICOLA DUPLICATE 41
AN 1999:56876 AGRICOLA
DN IND21998991
TI Resistance to oomycetes: a general role for the **hypersensitive response**?
AU Kamoun, S.; Huitema, E.; Vleeshouwers, V.G.A.A.
CS The Ohio State University, Wooster, OH.
AV DNAL (QK1.T74)
SO Trends in plant science, May 1999. Vol. 4, No. 5. p. 196-200
Publisher: Kidlington, Oxford : Elsevier Science, Ltd., c1996-
ISSN: 1360-1385
NTE Includes references
CY England; United Kingdom
DT Article
FS Non-U.S. Imprint other than FAO
LA English

L3 ANSWER 84 OF 242 AGRICOLA DUPLICATE 39
AN 2000:4677 AGRICOLA
DN IND22009882
TI Pathogen-induced elicitin production in transgenic tobacco generates a **hypersensitive response** and nonspecific disease resistance.
AU Keller, H.; Pamboukdjian, N.; Ponchet, M.; Poupet, A.; Delon, R.; Verrier, J.L.; Roby, D.; Ricci, P.
CS INRA, Antibes, France.
SO The Plant cell, Feb 1999. Vol. 11, No. 2. p. 223-235
Publisher: [Rockville, MD : American Society of Plant Physiologists, c1989-
CODEN: PLCEEW; ISSN: 1040-4651
NTE Includes references
CY Maryland; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB The rapid and effective activation of disease resistance responses is essential for plant defense against pathogen attack. These responses are initiated when pathogen-derived molecules (elicitors) are recognized by the host. We have developed a strategy for creating novel disease resistance traits whereby transgenic plants respond to infection by a virulent pathogen with the production of an elicitor. To this end, we generated transgenic tobacco plants harboring a fusion between the pathogen-inducible tobacco hsr203J gene promoter and a **Phytophthora** cryptogea gene encoding the highly active elicitor cryptogein. Under noninduced conditions, the transgene was silent, and no cryptogein could be detected in the transgenic plants. In contrast, infection by the virulent fungus P. parasitica var nicotianae stimulated cryptogein production that coincided with the fast induction of several defense genes at and around the infection sites. Induced elicitor production resulted in a localized necrosis that resembled a P. cryptogea-induced **hypersensitive response** and that restricted further growth of the pathogen. The transgenic plants displayed enhanced resistance to fungal pathogens that were unrelated to

Phytophthora species, such as Thielaviopsis basicola, Erysiphe cichoracearum, and Botrytis cinerea. Thus, broad-spectrum disease resistance of a plant can be generated without the constitutive synthesis of a transgene product.

L3 ANSWER 61 OF 242 AGRICOLA
AN 2000:37240 AGRICOLA
DN IND22048499
TI Cloning, expression and characterization of protein elicitors from the soyabean pathogenic fungus **Phytophthora** sojae.
AU Becker, J.; Nagel, S.; Tenhaken, R.
CS Universitat Kaiserslautern, Kaiserslautern, Germany.
AV DNAL (464.8 P562)
SO Phytopathologische Zeitschrift, Mar 2000. Vol. 148, No. 3. p. 161-167
Publisher: Berlin : Blackwell Wissenschafts-Verlag GmbH.
CODEN: PHYZA3; ISSN: 0031-9481
NTE Includes references
CY Germany
DT Article
FS Non-U.S. Imprint other than FAO
LA English
SL German

L3 ANSWER 51 OF 242 AGRICOLA DUPLICATE 22
AN 2001:25772 AGRICOLA
DN IND22303540
TI The **hypersensitive response** is associated with host and nonhost resistance to **Phytophthora** infestans.
AU Vleeshouwers, V.G.A.A.; Dooijeweert, W. van.; Govers, F.; Kamoun, S.; Colon, L.T.
AV DNAL (450 P693)
SO Planta, May 2000. Vol. 210, No. 6. p. 853-864
Publisher: Berlin ; New York : Springer-Verlag, 1925-
CODEN: PLANAB; ISSN: 0032-0935
NTE Includes references
CY Germany
DT Article
FS Non-U.S. Imprint other than FAO
LA English

=> d ti 101-125

L3 ANSWER 101 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Defense response of pepper (Capsicum annuum) suspension cells to **Phytophthora** capsici

L3 ANSWER 102 OF 242 AGRICOLA DUPLICATE 51
TI Use of a new tetrazolium-based assay to study the production of superoxide radicals by tobacco cell cultures challenged with avirulent zoospores of **Phytophthora** parasitica var nicotianae.

L3 ANSWER 103 OF 242 AGRICOLA DUPLICATE 52
TI Fungal avirulence genes: structure and possible functions.

L3 ANSWER 104 OF 242 AGRICOLA DUPLICATE 53
TI Differential expression of a senescence-enhanced metallothionein gene in Arabidopsis in response to isolates of **Peronospora** parasitica and Pseudomonas syringae.

L3 ANSWER 105 OF 242 CABA COPYRIGHT 2002 CABI
TI Defence responses of tissue cultured tobacco cells challenged with the fungal pathogen **Phytophthora** parasitica var. nicotianae.

L3 ANSWER 106 OF 242 CABA COPYRIGHT 2002 CABI
TI Lack of evidence for translocation of resistance factors between roots and foliage of Capsicum annuum infected by **Phytophthora** capsici.

L3 ANSWER 107 OF 242 CABA COPYRIGHT 2002 CABI
TI [Biological activity of cymoxanil against **Plasmopara** viticola and **Phytophthora** infestans: cytological analysis].
Attivita biologica di cymoxanil nei confronti di **Plasmopara** viticola e di **Phytophthora** infestans: analisi citologica.

L3 ANSWER 108 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Induction of the **hypersensitive response** and systemic acquired resistance by fungal proteins: The case of elicitins.

L3 ANSWER 109 OF 242 AGRICOLA DUPLICATE 54
TI RNase activity prevents the growth of a fungal pathogen in tobacco leaves and increases upon induction of systemic acquired resistance with

elicitin.

L3 ANSWER 110 OF 242 AGRICOLA DUPLICATE 55
TI A novel class of elicitin-like genes from **Phytophthora** infestans.

L3 ANSWER 111 OF 242 AGRICOLA
TI Mapping the elicitor and necrotic sites of **Phytophthora** elicitins with synthetic peptides and reporter genes controlled by tobacco defense gene promoters.

L3 ANSWER 112 OF 242 AGRICOLA
TI Spatial and temporal induction of cell death, defense genes, and accumulation of salicylic acid in tobacco leaves reacting hypersensitively to a fungal glycoprotein elicitor.

L3 ANSWER 113 OF 242 AGRICOLA DUPLICATE 56
TI Characterization of acquired resistance in lesion-mimic transgenic potato expressing bacterio-opsin.

L3 ANSWER 114 OF 242 AGRICOLA DUPLICATE 57
TI Characterization of a diffusible signal capable of inducing defense gene expression in tobacco.

L3 ANSWER 115 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 58
TI Induction of pathogen resistance and pathogenesis-related genes in tobacco by a heat-stable Trichoderma mycelial extract and plant signal messengers.

L3 ANSWER 116 OF 242 CABA COPYRIGHT 2002 CABI
TI [Studies on several genes implicated in resistance of potatoes to **Phytophthora** infestans].
Etude de quelques genes impliques dans la resistance de la pomme de terre a **Phytophthora** infestans.

L3 ANSWER 117 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Induction of the **hypersensitive response** and systemic acquired resistance by fungal proteins: the case of elicitins

L3 ANSWER 118 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Effect of harpin on Arabidopsis thaliana.

L3 ANSWER 119 OF 242 AGRICOLA DUPLICATE 59
TI A gene encoding a protein elicitor of **Phytophthora** infestans is down-regulated during infection of potato.

L3 ANSWER 120 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI **Hypersensitive response** induced resistance in plants

L3 ANSWER 121 OF 242 CAPLUS COPYRIGHT 2002 ACS
TI Plant regulatory elements involved in the **hypersensitive response** to infection and their uses

L3 ANSWER 122 OF 242 AGRICOLA
TI The hypersensitive reaction, membrane damage and accumulation of autofluorescent phenolics in lettuce cells challenged by **Bremia** lactucae.

L3 ANSWER 123 OF 242 AGRICOLA
TI Influence of salicylic acid on the induction of competence for H2O2 elicitation: comparison of ergosterol with other elicitors.

L3 ANSWER 124 OF 242 AGRICOLA
TI Salicylic acid mediates elicitin-induced systemic acquired resistance, but not necrosis in tobacco.

L3 ANSWER 125 OF 242 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI The oxidative burst in plant defense: Function and signal transduction.

=> d bib abs 120 119

L3 ANSWER 120 OF 242 CAPLUS COPYRIGHT 2002 ACS
AN 1997:151517 CAPLUS
DN 126:155234
TI **Hypersensitive response** induced resistance in plants
IN Wei, Zhong-Min; Beer, Steven V.
PA Cornell Research Foundation, Inc., USA
SO PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DT Patent

LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9639802	A1	19961219	WO 1996-US8819	19960605
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
	US 5650387	A	19970722	US 1995-475775	19950607
	CA 2223616	AA	19961219	CA 1996-2223616	19960605
	AU 9659821	A1	19961230	AU 1996-59821	19960605
	AU 714512	B2	20000106		
	CN 1192647	A	19980909	CN 1996-196146	19960605
	EP 871354	A1	19981021	EP 1996-917152	19960605
	R: CH, DE, DK, ES, FR, GB, LI, NL, SE				
	BR 9609073	A	19990126	BR 1996-9073	19960605
	JP 11506938	T2	19990622	JP 1996-501304	19960605
	PL 182459	B1	20020131	PL 1996-323823	19960605
	US 5859324	A	19990112	US 1997-819539	19970317
	US 5776889	A	19980707	US 1997-891254	19970710
PRAI	US 1995-475775	A	19950607		
	WO 1996-US8819	W	19960605		

AB A method of imparting pathogen resistance to plants is decribed. This involves applying a **hypersensitive response** elicitor polypeptide or protein in a non-infectious form to a plant under conditions where the polypeptide or protein contacts cells of the plant. The invention is also directed to a pathogen resistant plant and a compn. for imparting pathogen resistance to plants. Thus, treatment of tomato plants with harpin or Escherichia coli DH5 (pCPP430), which produces harpin, results in induced resistance in the plants to southern bacterial wilt caused by Pseudomonas solanacearum K60.

L3 ANSWER 119 OF 242 AGRICOLA DUPLICATE 59
AN 97:30934 AGRICOLA
DN IND20561284
TI A gene encoding a protein elicitor of **Phytophthora** infestans is down-regulated during infection of potato.
AU Kamoun, S.; West, P. van.; Jong, A.J. de.; Groot, K.E. de.; Vlesshouwers, V.G.A.A.; Govers, F.
CS Wageningen Agricultural University, Wageningen, The Netherlands.
SO Molecular plant-microbe interactions : MPMI, Jan 1997. Vol. 10, No. 1. p. 13-20
Publisher: St. Paul, MN : APS Press, [c1987-
CODEN: MPMIEL; ISSN: 0894-0282
NTE Includes references
CY Minnesota; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB Most species of the genus **Phytophthora** produce 10-kDa extracellular protein elicitors, collectively termed elicitins. Elicitins induce **hypersensitive response** in a restricted number of plants, particularly in the genus Nicotiana within the Solanaceae family. A cDNA encoding INF1, the major secreted elicitin of **Phytophthora** infestans, a pathogen of solanaceous plants, was isolated and characterized. The expression of the corresponding inf1 gene during the disease cycle of P. infestans was analyzed. inf1 was shown to be expressed in mycelium grown in various culture media, whereas it was not expressed in sporangiospores, zoospores, cysts, and germinating cysts. In planta, during infection of potato, particularly during the biotrophic stage, expression of inf1 was down-regulated compared to in vitro. The highest levels of expression of inf1 were observed in in vitro grown mycelium and in late stages of infection when profuse sporulation and leaf necrosis occur. The potential role of INF1 as an elicitor in interactions between P. infestans and Solanum species was investigated. Nineteen lines, representing nine solanaceous species with various levels of resistance to P. infestans, were tested for response to an Escherichia coli expressed INF1. Within the genus Solanum, resistance to P. infestans did not appear to be mediated by a defense response elicited by INF1. However, INF1 recognition could be a component of nonhost resistance of tobacco to P. infestans.

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=> file agricola biosis caplus caba

=> s (hypersensitive response elicitor) and (phytophthora or pythium or bremia or peronspora or oomycete)

L3 14 (HYPERSENSITIVE RESPONSE ELICITOR) AND (PHYTOPHTHORA OR PYTHIUM OR BREMIA OR PERONSPORA OR OOMYCETE)

=> duplicate remove l3

L4 13 DUPLICATE REMOVE L3 (1 DUPLICATE REMOVED)

=> d ti 1-13

L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Inhibition of desiccation of cuttings removed from ornamental plants by **hypersensitive response elicitor** protein or polypeptide

L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Expression of a **hypersensitive response elicitor** gene in combination with other transgenes in plants to improve growth, stress tolerance, disease or insect resistance

L4 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Treatment of fruits or vegetables with **hypersensitive response elicitor** to inhibit postharvest disease or desiccation

L4 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Plant harpin-binding protein and cDNA and transgenic plants with enhanced growth and insect, disease and stress resistance

L4 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI **Oomycete**-resistant transgenic plants by virtue of pathogen-induced expression of a heterologous **hypersensitive response elicitor**

L4 ANSWER 6 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
TI Disruption of microtubular cytoskeleton induced by cryptogein, an elicitor of hypersensitive response in tobacco cells.

L4 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Methods of imparting stress resistance to plants with **hypersensitive response elicitor** proteins derived from fungal and bacterial pathogens

L4 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Sequences encoding fragments of microbial **hypersensitive response elicitor** proteins which are active but do not elicit a hypersensitive response, and their applications in plant genetic engineering

L4 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Insect control on plants with fungal hypersensitive response elicitors

L4 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Stimulating plant growth by application of hypersensitive response elicitors or by transformation with genes for their biosynthesis

L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Hypersensitive response-induced pathogen resistance in plants by seed treatment with elicitor proteins

L4 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Hypersensitive response induced resistance in plants

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI A new elicitor of the hypersensitive response in tobacco: a fungal glycoprotein elicits cell death, expression of defense genes, production of salicylic acid, and induction of systemic acquired resistance

=> d bib abs 1-13

L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2002:368228 CAPLUS
DN 136:365289
TI Inhibition of desiccation of cuttings removed from ornamental plants by **hypersensitive response elicitor** protein or polypeptide
IN Wei, Zhong-Min; Leon, Ernesto; Oviedo, Agustin

PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002037960	A2	20020516	WO 2001-US43715	20011106
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002036469	A5	20020521	AU 2002-36469	20011106
PRAI	US 2000-248169P	P	20001113		
	WO 2001-US43715	W	20011106		

AB Desiccation of cuttings removed from ornamental plants is inhibited by treating the cutting with a **hypersensitive response elicitor** protein or polypeptide derived from plant pathogen. The ornamental plants can be transgenic plants which express a heterologous **hypersensitive response elicitor** protein or polypeptide or the ornamental plants can be treated via topical application with a **hypersensitive response elicitor** protein or polypeptide. Alternatively, cuttings from the ornamental plant can be treated with a **hypersensitive response elicitor** protein or polypeptide, independent of any treatment provided to the ornamental plant from which the cutting is removed.

L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2001:923552 CAPLUS
DN 136:51265
TI Expression of a **hypersensitive response elicitor** gene in combination with other transgenes in plants to improve growth, stress tolerance, disease or insect resistance
IN Wei, Zhong-Min; Derocher, Jay
PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001095724	A2	20011220	WO 2001-US18955	20010613
	WO 2001095724	A3	20020530		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 2002059658	A1	20020516	US 2001-880371	20010613
PRAI	US 2000-211585P	P	20000615		

AB The present invention relates to methods of improving the effectiveness of transgenic plants, either by maximizing the benefit of transgenic trait in transgenic plants or overcoming deleterious effects on growth, stress tolerance, disease resistance, or insect resistance in transgenic plants expressing a transgenic trait. By applying a **hypersensitive response elicitor** protein or polypeptide to a transgenic plant expressing a transgene which confers a transgenic trait, or by prepg. a transgenic plant expressing both a transgene which confers a transgenic trait and a second transgene which confers **hypersensitive response elicitor** expression, it is possible to realize the max. benefit of the transgenic trait or overcome deleterious effects on growth, stress tolerance, disease or insect resistance, male sterility, modified flower color or biochem. modified plant products which result from or accompany expression of the transgene conferring the transgenic trait. The **hypersensitive response elicitor** protein can be applied to the plant or seed at a concn. greater than 0.5 nM by spraying, injection, dusting, immersion or leaf abrasion in water, aq. solns., slurries or powder.

L4 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS

AN 2001:797991 CAPLUS
DN 135:299956
TI Treatment of fruits or vegetables with **hypersensitive response elicitor** to inhibit postharvest disease or desiccation
IN Wei, Zhong-Min; Qiu, Dewen; Remick, Dean
PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001080639	A2	20011101	WO 2001-US12468	20010417
	WO 2001080639	A3	20020221		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

	US 2002019337	A1	20020214	US 2001-835684	20010416
PRAI	US 2000-198359P	P	20000419		

AB A method of inhibiting postharvest disease or desiccation in a fruit or vegetable consists of either by treating a fruit or vegetable with a **hypersensitive response elicitor** protein or polypeptide under conditions effective to inhibit postharvest disease or desiccation, or by providing a transgenic plant or plant seed transformed with a DNA mol. encoding a **hypersensitive response elicitor** polypeptide or protein and growing the transgenic plant or transgenic plant produced from the transgenic plant seed under conditions effective to inhibit a postharvest disease or desiccation in a fruit or vegetable harvested from the transgenic plant. Also disclosed are DNA constructs and expression systems, host cells, and transgenic plants contg. the DNA construct.

L4 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2001:713571 CAPLUS
DN 135:269069
TI Plant harpin-binding protein and cDNA and transgenic plants with enhanced growth and insect, disease and stress resistance
IN Song, Xiaoling; Fan, Hao; Wei, Zhong-Min
PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 78 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001070988	A2	20010927	WO 2001-US8728	20010319
	WO 2001070988	A3	20020404		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

	US 2002007501	A1	20020117	US 2001-810997	20010316
	EP 1268805	A2	20030102	EP 2001-920516	20010319

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRAI	US 2000-191649P	P	20000323
	US 2000-250710P	P	20001201
	WO 2001-US8728	W	20010319

AB The present invention is directed to an isolated protein which serves as a receptor in plants for a plant pathogen **hypersensitive response elicitor**. Also disclosed are nucleic acid mols. encoding such receptors as well as expression vectors, host cells, transgenic plants, and transgenic plant seeds contg. such nucleic acid mols. Both the protein and nucleic acid can be used to identify agents targeting plant cells to enhance a plant's receptivity to treatment with a **hypersensitive response elicitor** and to directly impart plant growth enhancement as well as resistance against disease, insects, and stress. Thus, the Arabidopsis thaliana cDNA and

gene for Erwinia amylovora harpin-binding protein HrBP1 were cloned and sequenced. A partial cDNA for the rice HrBP1 homolog was also cloned and sequenced. HrBP1 was found everywhere is the A. thaliana plant. HrBP1 mRNA was found in many different plants (monocots as well as dicots). Silencing of HrBP1 expression in A. thaliana enhanced its resistance to Pseudomonas syringae p.v. tomato infection. Overexpression of HrBP1 in tobacco resulted in enhanced resistance to tobacco mosaic virus.

L4 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2001:565226 CAPLUS
DN 135:148226
TI **Oomycete**-resistant transgenic plants by virtue of pathogen-induced expression of a heterologous **hypersensitive response elicitor**
IN Beer, Steven V.; Bauer, David W.
PA Cornell Research Foundation, Inc., USA
SO PCT Int. Appl., 73 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001055347	A1	20010802	WO 2001-US2579	20010126
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 2002069434	A1	20020606	US 2001-770693	20010126
PRAI	US 2000-178565P	P	20000126		

AB The present invention relates to a chimeric gene that includes a first DNA mol. encoding a **hypersensitive response elicitor** protein or polypeptide, a promoter operably linked 5' to the first DNA mol. to induce transcription of the first DNA mol. in response to activation of the promoter by an **oomycete**, and a 3' regulatory region operably linked to the first DNA mol. Also disclosed are an expression system and a host cell contg. the chimeric gene. The present invention also relates to a transgenic plant resistant to disease resulting from **oomycete** infection, the transgenic plant including the chimeric gene, wherein the promoter induces transcription of the first DNA mol. in response to infection of the plant by an **oomycete**. Transgenic seeds and transgenic cultivars obtained from the transgenic plant are also disclosed. Addnl. aspects of the present invention include methods of making a recombinant plant cell and a transgenic plant.
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2001:292735 BIOSIS
DN PREV200100292735
TI Disruption of microtubular cytoskeleton induced by cryptogein, an elicitor of hypersensitive response in tobacco cells.
AU Binet, Marie-Noelle (1); Humbert, Claude; Lecourieux, David; Vantard, Marylin; Pugin, Alain
CS (1) Biochimie, Biologie Cellulaire et Ecologie des Interactions Plantes/Micro-Organismes, Unite Mixte de Recherche, Institut National de la Recherche Agronomique, Universite de Bourgogne, 17 Rue Sully, BV 86510, 21065, Dijon Cedex: binet@dijon.inra.fr France
SO Plant Physiology (Rockville), (February, 2001) Vol. 125, No. 2, pp. 564-572. print.
ISSN: 0032-0889.
DT Article
LA English
SL English
AB The dynamics of microtubular cytoskeleton were studied in tobacco (Nicotiana tabacum cv Xanthi) cells in response to two different plant defense elicitors: cryptogein, a protein secreted by **Phytophthora** cryptogea and oligogalacturonides (OGs), derived from the plant cell wall. In tobacco plants cryptogein triggers a hypersensitive-like response and induces systemic resistance against a broad spectrum of pathogens, whereas OGs induce defense responses, but fail to trigger cell death. The comparison of the microtubule (MT) dynamics in response to cryptogein and OGs in tobacco cells indicates that MTs appear unaffected in OG-treated cells, whereas cryptogein treatment caused a rapid and severe disruption of microtubular network. When hyperstabilized by the MT depolymerization

inhibitor, taxol, the MT network was still disrupted by cryptogein treatment. On the other hand, the MT-depolymerizing agent oryzalin and cryptogein had different and complementary effects. In addition to MT destabilization, cryptogein induced the death of tobacco cells, whereas OG-treated cells did not die. We demonstrated that MT destabilization and cell death induced by cryptogein depend on calcium influx and that MT destabilization occurs independently of active oxygen species production. The molecular basis of cryptogein-induced MT disruption and its potential significance with respect to cell death are discussed.

L4 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2000:335576 CAPLUS
DN 133:1481
TI Methods of imparting stress resistance to plants with **hypersensitive response elicitor** proteins derived from fungal and bacterial pathogens
IN Wei, Zhong-Min; Schading, Richard L.
PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000028055	A2	20000518	WO 1999-US26039	19991104
	WO 2000028055	A3	20000914		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1124974	A2	20010822	EP 1999-958773	19991104
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002529095	T2	20020910	JP 2000-581221	19991104
PRAI	US 1998-107243P	P	19981105		
	WO 1999-US26039	W	19991104		

AB The present invention is directed to imparting stress resistance to plants. This can be achieved by applying a **hypersensitive response elicitor** protein to plants or plant seeds under conditions effective to impart stress resistance to plants or plants grown from the plant seeds. Alternatively, transgenic plants or plant seeds transformed with a DNA mol. encoding the elicitor can be provided and the transgenic plants or plants resulting from the transgenic plant seeds are grown under conditions effective to impart stress resistance to plants or plants grown from the plant seeds. The response elicitor proteins of the invention were derived from Erwinia, Pseudomonas, and Xanthomonas and were used to combat insecticide stress in cotton, drought stress in cucumber, herbicide stress in pepper, and calcium deficiency in tomato.

L4 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2000:241283 CAPLUS
DN 132:275186
TI Sequences encoding fragments of microbial **hypersensitive response elicitor** proteins which are active but do not elicit a hypersensitive response, and their applications in plant genetic engineering
IN Wei, Zhong-Min; Fan, Hao; Niggemeyer, Jennifer L.
PA Eden Bioscience Corporation, USA
SO PCT Int. Appl., 100 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000020452	A2	20000413	WO 1999-US23181	19991005
	WO 2000020452	A3	20000706		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

	CA 2344593	AA	20000413	CA 1999-2344593	19991005
	AU 9965085	A1	20000426	AU 1999-65085	19991005
	BR 9915345	A	20010731	BR 1999-15345	19991005
	EP 1119582	A2	20010801	EP 1999-953057	19991005
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002526101	T2	20020820	JP 2000-574563	19991005
	NO 2001001729	A	20010605	NO 2001-1729	20010405
PRAI	US 1998-103050P	P	19981005		
	WO 1999-US23181	W	19991005		

AB The invention provides sequences encoding active fragments of a **hypersensitive response elicitor** protein which does not elicit a hypersensitive response in plants. Specifically, the fragments are derived from **hypersensitive response elicitor** proteins from Erwinia amylovora (gene hrpN) and/or Pseudomonas syringae (gene hrpZ). Isolated fragments of **hypersensitive response elicitor** proteins have the following activities: imparting disease resistance to plants, enhancing plant growth, and/or controlling insects on plants. This can be achieved by applying the fragments of a **hypersensitive response elicitor** in a non-infectious form to plants or plant seeds, or by using transgenic plants or plant seeds transformed with a DNA mol. encoding the **hypersensitive response elicitor** fragment.

L4 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 1998:603208 CAPLUS
DN 129:226970
TI Insect control on plants with fungal hypersensitive response elicitors
IN Zitter, Thomas A.; Wei, Zhong-min
PA Cornell Research Foundation, Inc., USA
SO PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9837752	A1	19980903	WO 1998-US3604	19980226
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5977060	A	19991102	US 1998-30270	19980225
	AU 9866664	A1	19980918	AU 1998-66664	19980226
	AU 740564	B2	20011108		
	BR 9807632	A	20000222	BR 1998-7632	19980226
	EP 1028616	A1	20000823	EP 1998-908700	19980226
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001519778	T2	20011023	JP 1998-537779	19980226
	FI 9901824	A	19991026	FI 1999-1824	19990827
PRAI	US 1997-39226P	P	19970228		
	WO 1998-US3604	W	19980226		

AB The present invention relates to a method of controlling insects on plants. This involves applying a **hypersensitive response elicitor** polypeptide or protein in a non-infectious form to a plant or plant seed under conditions effective to control insects on the plant or plants produced from the plant seed. Alternatively, transgenic plants or transgenic plant seeds transformed with a DNA mol. encoding a **hypersensitive response elicitor** polypeptide or protein can be provided and the transgenic plants or plants resulting from the transgenic plant seeds are grown under conditions effective to control insects. Thus, tobacco seedlings generated from harpin-soaked seeds (an elicitor from Erwinia amylovora) are far more resistant to aphid infection than control plants. Similarly, cotton aphids (Aphis gossypii) are controlled by foliar application of HP-1000 (a hypersensitive elicitor from Erwinia amylovora) on cotton plants.

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 1998:527416 CAPLUS
DN 129:145855
TI Stimulating plant growth by application of hypersensitive response elicitors or by transformation with genes for their biosynthesis
IN Qiu, Dewen; Wei, Zhong-Min; Beer, Steven V.

PA Cornell Research Foundation, Inc., USA
SO PCT Int. Appl., 110 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9832844	A1	19980730	WO 1998-US1507	19980127
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9860431	A1	19980818	AU 1998-60431	19980127
	AU 748088	B2	20020530		
	BR 9807292	A	20000321	BR 1998-7292	19980127
	EP 1012255	A1	20000628	EP 1998-903743	19980127
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001509670	T2	20010724	JP 1998-532215	19980127
	FI 9901646	A	19990924	FI 1999-1646	19990726
PRAI	US 1997-36048P	P	19970127		
	WO 1998-US1507	W	19980127		

AB A method of stimulating plant growth using **hypersensitive response elicitor** polypeptides is described. The pathogen-free polypeptide can be applied to the plants, or to seed, or the plants may transformed with a gene for the elicitor. The elicitor can be used to accelerate germination and early growth when applied to seed or to advance maturation and ripening when applied to older plants. Tomato seed incubated in an aq. soln. (1.25-20 .mu.g/mL) of harpin for 24 h at 28.degree. before sowing showed more rapid and extensive germination than control plants (38-43% germination on day 5 vs. 27% for control plants and 51-59% germination on day 9 vs. 40% for controls). Seedling growth was also faster. Field trials showed that harpin was also effective in stimulating the growth of seedlings. Ripening of raspberries was also stimulated by application of harpin.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 1998:394160 CAPLUS
DN 129:64305
TI Hypersensitive response-induced pathogen resistance in plants by seed treatment with elicitor proteins
IN Qiu, Dewen; Wei, Zhong-Min; Beer, Steven V.
PA Cornell Research Foundation, Inc., USA
SO PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9824297	A1	19980611	WO 1997-US22629	19971204
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 6235974	B1	20010522	US 1997-984207	19971203
	AU 9856935	A1	19980629	AU 1998-56935	19971204
	AU 744776	B2	20020307		
	EP 957672	A1	19991124	EP 1997-953129	19971204
	R: CH, DE, DK, ES, FR, GB, LI, NL, SE				
	BR 9713861	A	20000314	BR 1997-13861	19971204
	JP 2001506491	T2	20010522	JP 1998-525888	19971204
	FI 9901277	A	19990727	FI 1999-1277	19990604
	US 2002116733	A1	20020822	US 2001-766348	20010119
PRAI	US 1996-33230P	P	19961205		
	US 1997-984207	A3	19971203		
	WO 1997-US22629	W	19971204		

AB The present invention relates to a method of imparting pathogen resistance to plants. This involves applying a **hypersensitive response elicitor** polypeptide or protein in a non-infectious form to a plant seed under conditions where the polypeptide

or protein contacts cells of the plant seed. The present invention is also directed to a pathogen resistance imparting plant seed. Alternatively, transgenic plant seeds contg. a DNA mol. encoding a **hypersensitive response elicitor** polypeptide or protein can be planted in soil and a plant can be propagated from the planted seed under conditions effective to impart pathogen resistance to the plant. Elicitor proteins and their gene sequences are provided from Erwinia chrysanthemi, E. amylovora, Pseudomonas syringae, P. solanacearum, Xanthomonas campestris cv. glycines, and X. campestris cv. pelargonii.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 1997:151517 CAPLUS
DN 126:155234
TI Hypersensitive response induced resistance in plants
IN Wei, Zhong-Min; Beer, Steven V.
PA Cornell Research Foundation, Inc., USA
SO PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9639802	A1	19961219	WO 1996-US8819	19960605
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
	US 5650387	A	19970722	US 1995-475775	19950607
	CA 2223616	AA	19961219	CA 1996-2223616	19960605
	AU 9659821	A1	19961230	AU 1996-59821	19960605
	AU 714512	B2	20000106		
	CN 1192647	A	19980909	CN 1996-196146	19960605
	EP 871354	A1	19981021	EP 1996-917152	19960605
	R: CH, DE, DK, ES, FR, GB, LI, NL, SE				
	BR 9609073	A	19990126	BR 1996-9073	19960605
	JP 11506938	T2	19990622	JP 1996-501304	19960605
	PL 182459	B1	20020131	PL 1996-323823	19960605
	US 5859324	A	19990112	US 1997-819539	19970317
	US 5776889	A	19980707	US 1997-891254	19970710
PRAI	US 1995-475775	A	19950607		
	WO 1996-US8819	W	19960605		

AB A method of imparting pathogen resistance to plants is decribed. This involves applying a **hypersensitive response elicitor** polypeptide or protein in a non-infectious form to a plant under conditions where the polypeptide or protein contacts cells of the plant. The invention is also directed to a pathogen resistant plant and a compn. for imparting pathogen resistance to plants. Thus, treatment of tomato plants with harpin or Escherichia coli DH5 (pCPP430), which produces harpin, results in induced resistance in the plants to southern bacterial wilt caused by Pseudomonas solanacearum K60.

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 1995:970490 CAPLUS
DN 124:5099
TI A new elicitor of the hypersensitive response in tobacco: a fungal glycoprotein elicits cell death, expression of defense genes, production of salicylic acid, and induction of systemic acquired resistance
AU Baillieul, Fabienne; Genetet, Isabelle; Kopp, Marguerite; Saindrenan, Patrick; Fritig, Bernard; Kauffmann, Serge
CS Institut de Biologie Moleculaire des Plantes, Universite Louis Pasteur, Strasbourg, 67084, Fr.
SO Plant Journal (1995), 8(4), 551-60
CODEN: PLJUED; ISSN: 0960-7412
PB Blackwell
DT Journal
LA English
AB A 32 kDa glycoprotein whose effects in tobacco and other Nicotiana mimic a typical hypersensitive response, was isolated from **Phytophthora** megasperma. Infiltration of a few nanograms of the protein into leaves caused the formation of lesions that closely resemble hypersensitive response lesions. Transcripts of genes encoding enzymes of the phenylpropanoid and sesquiterpenoid pathways accumulated rapidly after elicitor application followed by salicylic acid prodn. Cellular damage, restricted to the infiltrated zone, occurred only several hours later, at a time when expression of PR protein genes was activated. After several days, systemic acquired resistance was also induced. Thus, tobacco plant cells that perceived the glycoprotein generated a cascade of signals

acting at local, short, and long distances, and causing the coordinate expression of specific defense responses in a way similar to hypersensitivity to tobacco mosaic virus. The glycoprotein represents a powerful tool to investigate further the signals and their transduction pathways involved in induced disease resistance. It may also be useful to engineer broad disease protection in a Nicotianae and possibly into crop plant species.

=> logoff hold

FILE 'HOME' ENTERED AT 15:09:25 ON 13 JAN 2003

=> file agricola biosis caplus caba

=> s oomycete and promoter

L1 67 OOMYCETE AND PROMOTER

=> duplicate remove l1

L2 23 DUPLICATE REMOVE L1 (44 DUPLICATES REMOVED)

=> d ti 1-23

L2 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2003 ACS
TI Arabidopsis thaliana genes exhibiting expression altered by **oomycete** pathogen infection

L2 ANSWER 2 OF 23 AGRICOLA DUPLICATE 1
TI Altered lignin structure and resistance to pathogens in spi 2-expressing tobacco plants.

L2 ANSWER 3 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
TI Over-expression of a seed specific hevein-like antimicrobial peptide from Pharbitis nil enhances resistance to a fungal pathogen in transgenic tobacco plants.

L2 ANSWER 4 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
TI Constitutive expression of a phenylalanine ammonia-lyase gene from Stylosanthes humilis in transgenic tobacco leads to enhanced disease resistance but impaired plant growth.

L2 ANSWER 5 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
TI Over-expression of TGA5, which encodes a bZIP transcription factor that interacts with NIM1/NPR1, confers SAR-independent resistance in Arabidopsis thaliana to Peronospora parasitica.

L2 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2003 ACS
TI **Oomycete**-resistant transgenic plants by virtue of pathogen-induced expression of a heterologous hypersensitive response elicitor

L2 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2003 ACS
TI Arabidopsis thaliana cyclic nucleotide-gated ion channel CNGC/DND and genes and their use as regulators of plant disease resistance and cell death

L2 ANSWER 8 OF 23 AGRICOLA DUPLICATE 5
TI A gene encoding Achlya bisexualis beta-amylase and its expression in Saccharomyces cerevisiae.

L2 ANSWER 9 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
TI A gene encoding beta-amylase from Saprolegnia parasitica and its expression in Saccharomyces cerevisiae.

L2 ANSWER 10 OF 23 AGRICOLA DUPLICATE 7
TI A local accumulation of the Ralstonia solanacearum PopA protein in transgenic tobacco renders a compatible plant-pathogen interaction incompatible.

L2 ANSWER 11 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Postinfection biological control of **oomycete** pathogens of pea by Burkholderia cepacia AMMDR1.

L2 ANSWER 12 OF 23 AGRICOLA DUPLICATE 8

TI Increased tolerance to Phytophthora citrophthora in transgenic orange plants constitutively expressing a tomato pathogenesis related protein PR-5.

L2 ANSWER 13 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 9
TI Arabidopsis dth9 mutation identifies a gene involved in regulating disease susceptibility without affecting salicylic acid-dependent responses.

L2 ANSWER 14 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 10
TI Internuclear gene silencing in Phytophthora infestans.

L2 ANSWER 15 OF 23 AGRICOLA DUPLICATE 11
TI Green fluorescent protein (GFP) as gene expression reporter and vital marker for studying development and microbe-plant interaction in the tobacco pathogen Phytophthora parasitica var. nicotianae.

L2 ANSWER 16 OF 23 AGRICOLA DUPLICATE 12
TI A peroxidase gene **promoter** induced by phytopathogens and methyl jasmonate in transgenic plants.

L2 ANSWER 17 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 13
TI Constitutive expression of an inducible beta-1,3-glucanase in alfalfa reduces disease severity caused by the **oomycete** pathogen Phytophthora megasperma f. sp medicaginis, but does not reduce disease severity of chitin-containing fungi.

L2 ANSWER 18 OF 23 AGRICOLA DUPLICATE 14
TI NiaA, the structural nitrate reductase gene of Phytophthora infestans: isolation, characterization and expression analysis in Aspergillus nidulans.

L2 ANSWER 19 OF 23 AGRICOLA DUPLICATE 15
TI Characterization of the "**promoter** region" of the enolase-endoding gene enol from the anaerobic fungus Neocallimastix frontalis: sequence and **promoter** analysis.

L2 ANSWER 20 OF 23 AGRICOLA DUPLICATE 16
TI Transformation of the **oomycete** pathogen Phytophthora megasperma f. sp. glycinea occurs by DNA integration into single or multiple chromosomes.

L2 ANSWER 21 OF 23 AGRICOLA DUPLICATE 17
TI Expression and antisense inhibition of transgenes in Phytophthora infestans is modulated by choice of **promoter** and position effects.

L2 ANSWER 22 OF 23 AGRICOLA DUPLICATE 18
TI Regulatory sequences for expressing genes in **oomycete** fungi.

L2 ANSWER 23 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 19
TI TRANSFORMATION OF THE **OOMYCETE** PATHOGEN PHYTOPHTHORA-INFESTANS.

=> s gst and promoter

L3 953 GST AND PROMOTER

=> duplicate remove l3

L4 555 DUPLICATE REMOVE L3 (398 DUPLICATES REMOVED)

=> s l4 and potato

L5 9 L4 AND POTATO

=> d ti 1-9

L5 ANSWER 1 OF 9 AGRICOLA
TI Expression of the chemically inducible maize **GST**-27 **promoter** in **potato**.

L5 ANSWER 2 OF 9 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Solanum tuberosum double transgenic expressing phosphoenolpyruvate carboxylase and NADP-malic enzyme display reduced electron requirement for CO2 fixation.

L5 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2003 ACS

TI Synthetic insecticidal proteins and synergistic combinations thereof for production of transgenic plants which are resistant to insect

L5 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2003 ACS
TI Improving plant oxidative stress tolerance by recombinant expression of enzymes involved in glutathione synthesis and redox cycling

L5 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2003 ACS
TI Use of plant **promoter GST**-II-27 to prevent or inhibit sprouting of tubers in transgenic **potato**

L5 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2003 ACS
TI Gene switch for target gene transcription using inducible promoters and response proteins

L5 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2003 ACS
TI Evaluation of the hrpN gene for increasing resistance to fire blight in transgenic apple

L5 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2003 ACS
TI Genetic method for controlling sprouting in **potato** tubers

L5 ANSWER 9 OF 9 CABA COPYRIGHT 2003 CABI
TI Evaluation of the hrpN gene for increasing resistance to fire blight in transgenic apple.

=> s gst and oomycete

L6 0 GST AND OOMYCETE

=> d bib abs l5 7

L5 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2003 ACS
AN 1999:775103 CAPLUS
DN 132:274940
TI Evaluation of the hrpN gene for increasing resistance to fire blight in transgenic apple
AU Abdul-Kader, A. M.; Norelli, J. L.; Aldwinckle, H. S.; Bauer, D. W.; Beer, S. V.
CS Agricultural Scientific Research, Damascus, Syria
SO Acta Horticulturae (1999), 489(Eighth International Workshop on Fire Blight, 1998), 247-250
CODEN: AHORA2; ISSN: 0567-7572
PB International Society for Horticultural Science
DT Journal
LA English
AB M.26 apple rootstock was transformed with different hrpN gene constructs to evaluate their potential for increasing resistance to fire blight. One approach was to attempt to induce a resistance reaction in transgenic apple by low-level expression of harpin from the nos **promoter**. A second approach was to engineer programmed cell death by high-level expression of harpin from a pathogen-inducible **promoter**. Since the cell wall is thought to be the site of harpin and host-cell interaction, constructs for both approaches were made with and without a signal peptide sequence (SS) to direct harpin to the intercellular space. For the first approach, two plasmid binary vectors contg. hrpN gene constructs, pBINPLUS/ Pnos-hrpN-Tnos and pBINPLUS/ Pnos-antihrpN-Tnos (antisense version), were transferred to M.26 explants using Agrobacterium tumefaciens. Regenerants were obtained on media contg. kanamycin (100 mg/l) and transformation was confirmed by NPTII ELISA and PCR anal. for the presence of the hrpN gene. Expression of harpin was demonstrated by western anal. For the second approach, the pathogenesis-related protein gene **promoter** (**gst**-1, formerly prp1-1) of **potato** is being evaluated in apple for its ability to be specifically induced by apple pathogens, including Erwinia amylovora.
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s pathogen-induced

L7 963 PATHOGEN-INDUCED

=> s l7 and promoter

L8 90 L7 AND PROMOTER

=> duplicate remove l8

L9 47 DUPLICATE REMOVE L8 (43 DUPLICATES REMOVED)

=> d ti 1-47

L9 ANSWER 1 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI MRC-5 and HCA2 cell lines immortalized by overexpression of the human telomerase gene and fully permissive for human cytomegalovirus for vaccine manufacture

L9 ANSWER 2 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Sunflower genes induced by infection with Sclerotinia and their promoters and their uses

L9 ANSWER 3 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Salicylic acid biosynthetic genes and uses in enhancing plant disease resistance

L9 ANSWER 4 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI N gene proteins of tobacco in generating non-**pathogen induced** systemic acquired resistance (SAR) and improving viral, bacterial or fungal disease resistance in transgenic plants

L9 ANSWER 5 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI DNA constructs and methods for identification of compounds that activate salicylic acid-independent systemic acquired resistance (SI-SAR) pathway in plants

L9 ANSWER 6 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
TI Preexisting systemic acquired resistance suppresses hypersensitive response-associated cell death in Arabidopsis hrl1 mutant.

L9 ANSWER 7 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Analysis of the DRR230 family of pea defensins: gene expression pattern and evidence of broad host-range antifungal activity

L9 ANSWER 8 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
TI Potentiation of developmentally regulated plant defense response by AtWRKY18, a **pathogen-induced** Arabidopsis transcription factor.

L9 ANSWER 9 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
TI Accumulation of tyrosol glucoside in transgenic potato plants expressing a parsley tyrosine decarboxylase.

L9 ANSWER 10 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
TI The tobacco bZIP transcription factor BZI-1 binds to G-box elements in the promoters of phenylpropanoid pathway genes in vitro, but it is not involved in their regulation in vivo.

L9 ANSWER 11 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Oomycete-resistant transgenic plants by virtue of **pathogen-induced** expression of a heterologous hypersensitive response elicitor

L9 ANSWER 12 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Sunflower genes induced by infection with Sclerotinia and their promoters and their uses

L9 ANSWER 13 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI **Pathogen-induced** genes sre2a and sre2b of potato and their use in improving pathogen resistance in plants

L9 ANSWER 14 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
TI A family of dispersed repetitive DNA sequences in tobacco contain clusters of W-box elements recognized by **pathogen-induced** WRKY DNA-binding proteins.

L9 ANSWER 15 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Powdery mildew induced expression of a peroxidase gene in Triticum aestivum L.

L9 ANSWER 16 OF 47 CABA COPYRIGHT 2003 CABI
TI Engineering disease resistance in plants using the CF9-AVR9 two component system.

L9 ANSWER 17 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI sequence of Maize replication protein a large and middle subunits with

applications for modulation of cell cycle in both dicots and monocots

L9 ANSWER 18 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Identification of genes encoding receptor-like protein kinases as possible targets of pathogen- and salicylic acid-induced WRKY DNA-binding proteins in Arabidopsis.

L9 ANSWER 19 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Apple LRPKm1 (leucine-rich repeat receptor-like protein kinase m1) gene and its use in the preparation of fungistatic transgenic plants to prevent apple scab

L9 ANSWER 20 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Genes for enzymes of salicylate biosynthesis of for the induction of disease resistance in plants

L9 ANSWER 21 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI The corn family of pathogenesis-related 1 (PR-1) genes and their promoters

L9 ANSWER 22 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI A novel plant cysteine proteinase for use in development of disease-resistant plants and the genes encoding them and the **promoter** regions of the genes

L9 ANSWER 23 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Tobacco cDNAs for genes induced upon pathogen infection and their uses

L9 ANSWER 24 OF 47 AGRICOLA DUPLICATE 6
TI Rapid transcript accumulation of pathogenesis-related genes during an incompatible interaction in bacterial speck disease-resistant tomato plants.

L9 ANSWER 25 OF 47 AGRICOLA DUPLICATE 7
TI **Pathogen-induced** elicitin production in transgenic tobacco generates a hypersensitive response and nonspecific disease resistance.

L9 ANSWER 26 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI A pathogen- and salicylic acid-induced WRKY DNA-binding activity recognizes the elicitor response element of the tobacco class I chitinase gene **promoter**

L9 ANSWER 27 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Nematode infection-induced plant promoters from Arabidopsis thaliana

L9 ANSWER 28 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI A cDNA for a cysteine proteinase from pathogen-infected plants

L9 ANSWER 29 OF 47 AGRICOLA DUPLICATE 8
TI Differential expression of a senescence-enhanced metallothionein gene in Arabidopsis in response to isolates of Peronospora parasitica and Pseudomonas syringae.

L9 ANSWER 30 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 9
TI Systemic induction of an Arabidopsis plant defensin gene **promoter** by tobacco mosaic virus and jasmonic acid in transgenic tobacco.

L9 ANSWER 31 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Rice **pathogen-induced** proteins and their use to produce transgenic disease-resistant plants

L9 ANSWER 32 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI HMG-CoA reductase gene HMG2 **promoter** expression system and post-harvest production of gene products in plants and plant cell cultures

L9 ANSWER 33 OF 47 AGRICOLA DUPLICATE 10
TI Expression of an engineered cecropin gene cassette in transgenic tobacco plants confers disease resistance to Pseudomonas syringae pv. tabaci.

L9 ANSWER 34 OF 47 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 11
TI Expression of a defence-related intercellular barley peroxidase in transgenic tobacco.

L9 ANSWER 35 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Flax rust-inducible **promoter** of the Fis1 gene of Linum usitatissimum and its uses

L9 ANSWER 36 OF 47 AGRICOLA DUPLICATE 12
TI Production of salicylic acid precursors is a major function of phenylalanine ammonia-lyase in the resistance of Arabidopsis to

Peronospora parasitica.

L9 ANSWER 37 OF 47 AGRICOLA DUPLICATE 13
TI A benzothiadiazole derivative induces systemic acquired resistance in tobacco.

L9 ANSWER 38 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Tissue-specific targeting of cytokine unresponsiveness in transgenic mice

L9 ANSWER 39 OF 47 AGRICOLA DUPLICATE 14
TI Developmental and **pathogen-induced** activation of an msr gene, str 246C, from tobacco involves multiple regulatory elements.

L9 ANSWER 40 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI In vitro characterization of a cassette to accumulate multiple proteins through synthesis of a self-processing polypeptide

L9 ANSWER 41 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Pathogen-inducible lethal genes for the preparation of pathogen-resistant plants.

L9 ANSWER 42 OF 47 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 15
TI A basic-type PR-1 **promoter** directs ethylene responsiveness, vascular and abscission zone-specific expression

L9 ANSWER 43 OF 47 CABA COPYRIGHT 2003 CABI
TI New tendencies in phytopathology around the year 2000.

L9 ANSWER 44 OF 47 CAPLUS COPYRIGHT 2003 ACS
TI Pathogen-resistant transgenic Solanaceae.

L9 ANSWER 45 OF 47 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 16
TI A wheat glutathione-S-transferase gene with transposon-like sequences in the **promoter** region

L9 ANSWER 46 OF 47 AGRICOLA DUPLICATE 17
TI Developmental and **pathogen-induced** activation of the Arabidopsis acidic chitinase **promoter**.

L9 ANSWER 47 OF 47 AGRICOLA DUPLICATE 18
TI Tissue-specific and **pathogen-induced** regulation of a Nicotiana plumbaginifolia beta-1,3-glucanase gene.

=> d bib abs 45 42 35

L9 ANSWER 45 OF 47 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 16
AN 1991:507560 CAPLUS
DN 115:107560
TI A wheat glutathione-S-transferase gene with transposon-like sequences in the **promoter** region
AU Mauch, Felix; Hertig, Cecilia; Rebmann, Gabriela; Bull, John; Dudler, Robert
CS Inst. Plant Biol., Univ. Zurich, Zurich, CH-8008, Switz.
SO Plant Molecular Biology (1991), 16(6), 1089-91
CODEN: PMBIDB; ISSN: 0167-4412
DT Journal
LA English
AB The .lambda.WIR526 clone was isolated from a wheat (Triticum aestivum L. cv Cheyenne) genomic .lambda.EMBL3 library using the **pathogen-induced** cDNA clone WIR5 as a probe. The complete nucleotide sequence of a 3.2-kb HindIII/BamHI DNA fragment of this clone hybridizing with WIR5 cDNA clone was detd. on both strands. Anal. of the 3196-bp sequence revealed that it contains a gene very similar to the putative wheat glutathione-S-transferase gene gstA1. Diagrams of this gene, which was named gstA2, and gstA1 are given. Whereas the first 1565 bp of the sequenced fragment are unrelated to gstA1, the sequence downstream exhibits an av. similarity of 90% to the gstA1 gene. Most of the discrepancies are accounted for by small deletions and insertions in the non-coding regions. However, compared to gstA1, there is a 1-bp deletion after position 2907 in gstA2, which corresponds to the second to last codon in the third exon of gstA1. This shifts the reading frame and results in an extension of the putative encoded protein to 291 amino acids, 62 amino acids longer than the gstA1-encoded one. Apart from this extension, the protein sequences are 95% identical. Since the known GST subunit sizes appear to be conserved in evolution and are all between 209 and 229 amino acids it is possible that this frame-shift mutation would render the gstA2 gene product non-functional.

L9 ANSWER 42 OF 47 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 15
AN 1994:209918 CAPLUS

DN 120:209918
TI A basic-type PR-1 **promoter** directs ethylene responsiveness, vascular and abscission zone-specific expression
AU Eyal, Yoram; Meller, Yael; Lev-Yadun, Simcha; Fluhr, Robert
CS Dep. Plant Genet., Weizmann Inst. Sci., Rehovot, 76100, Israel
SO Plant Journal (1993), 4(2), 225-34
CODEN: PLJUED; ISSN: 0960-7412
DT Journal
LA English
AB Pathogenesis-related (PR) proteins form a heterogeneous group of host-encoded, low-mol.-mass proteins that are secreted through the exocytic pathway. They are synthesized by the plant in response to various stimuli, including pathogen attack or exposure to certain chems. The PRB-1b gene of Nicotiana tabacum codes for a basic-type PR-1 protein whose transcription is regulated by ethylene. A minimal ethylene-responsive **promoter** element was defined by deletion anal. in transgenic tobacco plants. **Promoter** sequences contg. 213 bp or more were sufficient to enhance a 20-fold increase of .beta.-glucuronidase reporter gene expression in transgenic tobacco leaves exposed to 20 .mu.L L-1 of ethylene, while 67 bp were not sufficient to trigger ethylene responsiveness. All the constructs that retained ethylene inducibility exhibited phloem-specific activity, which was constitutive in petiole and pedicel abscission zones. This functional study was correlated to an in vitro screening of the major nuclear proteins' binding sites present on the **promoter**. Gel-shift anal. using nuclear exts. from ethylene-treated and non-treated plants revealed five sequence-specific protein-DNA complexes on **promoter** sequences spanning -863 to -142 bp. Constitutive expression of the basic-type PR-1 genes at the leaf and petiole or flower and pedicel interfaces may represent pre-emption of plant defenses against potential pathogens, suggesting a functional similarity to **pathogen-induced** expression in the leaf.

L9 ANSWER 35 OF 47 CAPLUS COPYRIGHT 2003 ACS
AN 1997:26252 CAPLUS
DN 126:45035
TI Flax rust-inducible **promoter** of the Fis1 gene of Linum usitatissimum and its uses
IN Pryor, Anthony J.; Roberts, James K.
PA Commonwealth Scientific and Industrial Research Organisation, Australia; Australian National University; Pryor, Anthony J.; Roberts, James K.
SO PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9634949	A1	19961107	WO 1996-AU264	19960503
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
	CA 2220333	AA	19961107	CA 1996-2220333	19960503
	AU 9654910	A1	19961121	AU 1996-54910	19960503
	AU 706861	B2	19990624		
	EP 828826	A1	19980318	EP 1996-911849	19960503
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1187850	A	19980715	CN 1996-194700	19960503
	JP 11507206	T2	19990629	JP 1996-532864	19960503
	US 6329572	B1	20011211	US 1998-952061	19980218
	AU 9950137	A1	19991125	AU 1999-50137	19990924
	AU 743540	B2	20020131		
	US 2002115849	A1	20020822	US 2001-983646	20011025
PRAI	AU 1995-2834	A	19950505		
	AU 1996-54910	A3	19960503		
	WO 1996-AU264	W	19960503		
	US 1998-952061	A3	19980218		

AB A flax gene (Fis1) that is induced by infection of the plant with the rust pathogen Melampsora lini is characterized and the SRR (susceptible reaction-responsive) **promoter** region identified for use in driving the expression of reporter genes or genes conferring resistance to phytopathogenic fungi is described. The gene can be used to identify similar genes under control of SRR promoters in other plants and a gene (Mis1) that is induced by Puccinia sorghi infection of corn is identified. The Fis1 gene was cloned by obtaining a cDNA clone for a **pathogen-induced** transcript and using it to screen for the corresponding gene. The **promoter** was used to drive .beta.-glucuronidase gene in flax.

=> d bib abs 19 25

L9 ANSWER 25 OF 47 AGRICOLA DUPLICATE 7
AN 2000:4677 AGRICOLA
DN IND22009882
TI **Pathogen-induced** elicitin production in transgenic tobacco generates a hypersensitive response and nonspecific disease resistance.
AU Keller, H.; Pamboukdjian, N.; Ponchet, M.; Poupet, A.; Delon, R.; Verrier, J.L.; Roby, D.; Ricci, P.
CS INRA, Antibes, France.
SO The Plant cell, Feb 1999. Vol. 11, No. 2. p. 223-235
Publisher: [Rockville, MD : American Society of Plant Physiologists, c1989-
CODEN: PLCEEW; ISSN: 1040-4651
NTE Includes references
CY Maryland; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB The rapid and effective activation of disease resistance responses is essential for plant defense against pathogen attack. These responses are initiated when pathogen-derived molecules (elicitors) are recognized by the host. We have developed a strategy for creating novel disease resistance traits whereby transgenic plants respond to infection by a virulent pathogen with the production of an elicitor. To this end, we generated transgenic tobacco plants harboring a fusion between the pathogen-inducible tobacco hsr203J gene **promoter** and a Phytophthora cryptogea gene encoding the highly active elicitor cryptogein. Under noninduced conditions, the transgene was silent, and no cryptogein could be detected in the transgenic plants. In contrast, infection by the virulent fungus P. parasitica var nicotianae stimulated cryptogein production that coincided with the fast induction of several defense genes at and around the infection sites. Induced elicitor production resulted in a localized necrosis that resembled a P. cryptogea-induced hypersensitive response and that restricted further growth of the pathogen. The transgenic plants displayed enhanced resistance to fungal pathogens that were unrelated to Phytophthora species, such as Thielaviopsis basicola, Erysiphe cichoracearum, and Botrytis cinerea. Thus, broad-spectrum disease resistance of a plant can be generated without the constitutive synthesis of a transgene product.

=> s l9 and elicitor

L11 7 L9 AND ELICITOR

=> d ti 1-9

L11 ANSWER 1 OF 7 AGRICOLA
TI **Pathogen-induced** elicitin production in transgenic tobacco generates a hypersensitive response and nonspecific disease resistance.

L11 ANSWER 2 OF 7 AGRICOLA
TI Developmental and **pathogen-induced** activation of an msr gene, str 246C, from tobacco involves multiple regulatory elements.

L11 ANSWER 3 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Preexisting systemic acquired resistance suppresses hypersensitive response-associated cell death in Arabidopsis hrl1 mutant.

L11 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS
TI Oomycete-resistant transgenic plants by virtue of **pathogen-induced** expression of a heterologous hypersensitive response **elicitor**

L11 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS
TI A pathogen- and salicylic acid-induced WRKY DNA-binding activity recognizes the **elicitor** response element of the tobacco class I chitinase gene **promoter**

L11 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2003 ACS
TI HMG-CoA reductase gene HMG2 **promoter** expression system and post-harvest production of gene products in plants and plant cell cultures

L11 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS
TI Pathogen-resistant transgenic Solanaceae.

=> d bib abs 1 7

L11 ANSWER 1 OF 7 AGRICOLA
AN 2000:4677 AGRICOLA
DN IND22009882
TI **Pathogen-induced** elicitin production in transgenic tobacco generates a hypersensitive response and nonspecific disease resistance.
AU Keller, H.; Pamboukdjian, N.; Ponchet, M.; Poupet, A.; Delon, R.; Verrier, J.L.; Roby, D.; Ricci, P.
CS INRA, Antibes, France.
SO The Plant cell, Feb 1999. Vol. 11, No. 2. p. 223-235
Publisher: [Rockville, MD : American Society of Plant Physiologists, c1989-
CODEN: PLCEEW; ISSN: 1040-4651
NTE Includes references
CY Maryland; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB The rapid and effective activation of disease resistance responses is essential for plant defense against pathogen attack. These responses are initiated when pathogen-derived molecules (elicitors) are recognized by the host. We have developed a strategy for creating novel disease resistance traits whereby transgenic plants respond to infection by a virulent pathogen with the production of an **elicitor**. To this end, we generated transgenic tobacco plants harboring a fusion between the pathogen-inducible tobacco hsr203J gene **promoter** and a Phytophthora cryptogea gene encoding the highly active **elicitor** cryptogein. Under noninduced conditions, the transgene was silent, and no cryptogein could be detected in the transgenic plants. In contrast, infection by the virulent fungus P. parasitica var nicotianae stimulated cryptogein production that coincided with the fast induction of several defense genes at and around the infection sites. Induced **elicitor** production resulted in a localized necrosis that resembled a P. cryptogea-induced hypersensitive response and that restricted further growth of the pathogen. The transgenic plants displayed enhanced resistance to fungal pathogens that were unrelated to Phytophthora species, such as Thielaviopsis basicola, Erysiphe cichoracearum, and Botrytis cinerea. Thus, broad-spectrum disease resistance of a plant can be generated without the constitutive synthesis of a transgene product.

L11 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 1992:102843 CAPLUS
DN 116:102843
TI Pathogen-resistant transgenic Solanaceae.
IN De Wit, Peter Jozef Gerard Marie
PA Rijkslandbouwuniversiteit Wageningen, Neth.
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9115585	A1	19911017	WO 1991-NL52	19910327
	W: AU, CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	NL 9000773	A	19911101	NL 1990-773	19900402
	CA 2056439	AA	19911003	CA 1991-2056439	19910327
	AU 9176845	A1	19911030	AU 1991-76845	19910327
	AU 642252	B2	19931014		
	EP 474857	A1	19920318	EP 1991-907897	19910327
	EP 474857	B1	19981223		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 05505110	T2	19930805	JP 1991-507720	19910327
	EP 874055	A2	19981028	EP 1998-200559	19910327
	EP 874055	A3	19990602		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AT 174931	E	19990115	AT 1991-907897	19910327
	ES 2128318	T3	19990516	ES 1991-907897	19910327
	IL 97736	A1	20000217	IL 1991-97736	19910331
	US 5866776	A	19990202	US 1994-199984	19940222
PRAI	NL 1990-773	A	19900402		
	EP 1991-907897	A3	19910327		
	WO 1991-NL52	A	19910327		
	US 1991-777400	B1	19911202		

AB A method for protection of plants against pathogen,s comprising **pathogen-induced** interaction of a plant-resistance gene

(R) product and a pathogen-avirulence (A) gene product, both genes being expressed in the plant, is described. Thus, an A gene is introduced into an R gene-contg. plant. Both genes are regulated such that they are simultaneously expressed at the site of pathogen infection, and the expression is induced by a broad range of pathogens. Alternatively, both R and A genes are introduced into the plant and their expression is regulated as described. The cDNA for the A gene avr9 of Cladosporium fulvum was cloned and sequenced. This cDNA encodes a 63-amino acid precursor of the 28-amino acid **elicitor**. This **elicitor** induces resistance in tomato cultivars which have the R gene Cf9. A virulent C. fulvum expressing the avr9 gene was converted to avirulence on tomatoes with Cf9 genotype.

=> s (phytophthora or oomycete) and resistan?

L12 12582 (PHYTOPHTHORA OR OOMYCETE) AND RESISTAN?

=> s l12 and plant

L13 7177 L12 AND PLANT

=> s l13 and transform?

L14 190 L13 AND TRANSFORM?

=> duplicate remove l14

L15 136 DUPLICATE REMOVE L14 (54 DUPLICATES REMOVED)

=> d ti 1-50

L15 ANSWER 1 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI cDNA encoding lipoxygenase of tobacco for improved **resistance** of transgenic plants to disease

L15 ANSWER 2 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Arabidopsis thaliana genes exhibiting expression altered by **oomycete** pathogen infection

L15 ANSWER 3 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI The inducible promoter of the lipoxygenase gene of tobacco and its use in regulated expression of foreign genes in transgenic plants

L15 ANSWER 4 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI hrmA gene of Pseudomonas syringae inducing systemic acquired **resistance** in transgenic plants against bacterial, fungal and viral pathogens

L15 ANSWER 5 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Enhanced disease **resistance** in transgenic cabbage and tobacco expressing a glucose oxidase gene from Aspergillus niger

L15 ANSWER 6 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
TI Altered lignin structure and **resistance** to pathogens in spi 2-expressing tobacco plants

L15 ANSWER 7 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Induction of **Resistance** to **Phytophthora** in Tubers of Transgenic Potato

L15 ANSWER 8 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI The R1 gene for potato **resistance** to late blight (**Phytophthora** infestans) belongs to the leucine zipper/NBS/LRR class of **plant resistance** genes.

L15 ANSWER 9 OF 136 CABA COPYRIGHT 2003 CABI
TI Over-expression of TGA5, which encodes a bZIP transcription factor that interacts with NIM1/NPR1, confers SAR-independent **resistance** in Arabidopsis thaliana to Peronospora parasitica.

L15 ANSWER 10 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Isolation of **plant** defense genes exclusive to the arbuscular mycorrhizal symbiosis.

L15 ANSWER 11 OF 136 CABA COPYRIGHT 2003 CABI
TI Somatic embryogenesis of avocado (Persea americana) and its application for **plant** improvement.

L15 ANSWER 12 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 2
TI Cloning of superoxide dismutase (Cu/Zn SOD) gene in peppers for stress tolerance

L15 ANSWER 13 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Towards genetic improvement of Citrus through molecular breeding.

L15 ANSWER 14 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Papaya ringspot virus **resistance** genes as a stimulus for developing new cultivars and new production systems

L15 ANSWER 15 OF 136 CABA COPYRIGHT 2003 CABI
TI Papaya ringspot virus **resistance** genes as a stimulus for developing, new cultivars and new production systems.

L15 ANSWER 16 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Method for increasing calcium storage in plants by overexpression of calcium-binding proteins or peptide-encoding transgene

L15 ANSWER 17 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI **Plant** defense phospholipases A2 and cDNAs and pest/disease-**resistant** transgenic plants

L15 ANSWER 18 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Transgenic plants expressing CEMA and ECEMA exhibit **resistance** to a broad spectrum of pathogens

L15 ANSWER 19 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI DNA encoding glucan elicitor receptor and glucanase and development of fungus-**resistant** plants **transformed** with the cDNA

L15 ANSWER 20 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Tomato Ve disease **resistance** genes encode cell surface-like receptors

L15 ANSWER 21 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
TI Late-blight-**resistant** tomato plants obtained by T-DNA insertion mutagenesis

L15 ANSWER 22 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 4
TI A local accumulation of the Ralstonia solanacearum PopA protein in transgenic tobacco renders a compatible **plant**-pathogen interaction incompatible

L15 ANSWER 23 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 5
TI Antioxidant enzymes and membrane lipid composition of disease **resistant** tomato plants regenerated from crown galls

L15 ANSWER 24 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Divinyl ether synthase in plants: A review

L15 ANSWER 25 OF 136 CABA COPYRIGHT 2003 CABI
TI Late blight **resistant** transgenic potato expressing glucose oxidase gene.

L15 ANSWER 26 OF 136 CABA COPYRIGHT 2003 CABI
TI Studies on enhancement of transgenic potato's **resistance** to late-blight by inducing the expression of thaumatin-like protein gene.

L15 ANSWER 27 OF 136 CABA COPYRIGHT 2003 CABI
TI The new USDA-ARS/Cornell University apple rootstock breeding and evaluation program.

L15 ANSWER 28 OF 136 CABA COPYRIGHT 2003 CABI
TI Comparison of **resistance** evaluation in potato variety assessment.

L15 ANSWER 29 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Partial **resistance** to **Phytophthora** infestans in four Solanum crosses.

L15 ANSWER 30 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Transgenic plants expressing dermaseptin and/or temporin peptides are **resistant** to a broad spectrum of pathogens

L15 ANSWER 31 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Methods of imparting stress **resistance** to plants with hypersensitive response elicitor proteins derived from fungal and bacterial pathogens

L15 ANSWER 32 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Sequences encoding fragments of microbial hypersensitive response elicitor proteins which are active but do not elicit a hypersensitive response, and their applications in **plant** genetic engineering

L15 ANSWER 33 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Improving **plant** disease **resistance** using conventional **plant** breeding, genetic engineering, and chemical induction of the endogenous hypersensitive response

L15 ANSWER 34 OF 136 CABA COPYRIGHT 2003 CABI
TI Present and future research for true potato seed technology.

L15 ANSWER 35 OF 136 CABA COPYRIGHT 2003 CABI
TI Potentiation of pathogen-specific defense mechanisms in Arabidopsis by beta -aminobutyric acid.

L15 ANSWER 36 OF 136 CABA COPYRIGHT 2003 CABI
TI Arabidopsis dth9 mutation identifies a gene involved in regulating disease susceptibility without affecting salicylic acid-dependent responses.

L15 ANSWER 37 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Enhanced late blight **resistance** of transgenic potato expressing glucose oxidase under the control of pathogen-inducible promoter

L15 ANSWER 38 OF 136 CABA COPYRIGHT 2003 CABI
TI Transgenic plants expressing cationic peptide chimeras exhibit broad-spectrum **resistance** to phytopathogens.

L15 ANSWER 39 OF 136 CABA COPYRIGHT 2003 CABI
TI Conversion of compatible **plant**-pathogen interactions into incompatible interactions by expression of the Pseudomonas syringae pv. syringae 61 hrmA gene in transgenic tobacco plants.

L15 ANSWER 40 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 6
TI The **Phytophthora** Genome Initiative database: Informatics and analysis for distributed pathogenomic research.

L15 ANSWER 41 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Expression of **resistance** to fungal diseases in transgenic plants of tomato.

L15 ANSWER 42 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 7
TI Evaluation of the **resistance** of Capsicum annuum lines when inoculated with three inoculum concentrations of **Phytophthora** capsici.

L15 ANSWER 43 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Elements of biotechnology applied to potato breeding at IHAR mlochow

L15 ANSWER 44 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Pathogen-inducible promoters from hexose oxidase genes of sunflower and lettuce

L15 ANSWER 45 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Pathogen-activatable MAP kinase WIPK to enhance disease **resistance** in plants

L15 ANSWER 46 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Fungi-**resistant** thanatin-producing transgenic plants and method for producing them

L15 ANSWER 47 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI methods for construction of pathogen-**resistant** transgenic **plant**

L15 ANSWER 48 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Somatic hybridization used for prodn. of Solanum tuberosum plants **resistant** to diseases including late blight, and use of genetic markers to monitor and/or identify disease **resistance** trait

L15 ANSWER 49 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 8
TI Expression of tobacco class II catalase gene activates the endogenous homologous gene and is associated with disease **resistance** in transgenic potato plants.

L15 ANSWER 50 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 9
TI Pathogen-induced elicitin production in transgenic tobacco generates a hypersensitive response and nonspecific disease **resistance**

=> d bib abs 50 47 41 39 37 38 33 7 25 2 4

L15 ANSWER 50 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 9

AN 1999:148417 CAPLUS
DN 130:294112
TI Pathogen-induced elicitin production in transgenic tobacco generates a hypersensitive response and nonspecific disease **resistance**
AU Keller, Harald; Pamboukdjian, Nicole; Ponchet, Michel; Poupet, Alain; Delon, Rene; Verrier, Jean-Louis; Roby, Dominique; Ricci, Pierre
CS Station de Botanique et de Pathologie Vegetale, Institut National de la Recherche Agronomique, Antibes, F-06606, Fr.
SO Plant Cell (1999), 11(2), 223-235
CODEN: PLCEEW; ISSN: 1040-4651
PB American Society of Plant Physiologists
DT Journal
LA English
AB The rapid and effective activation of disease **resistance** responses is essential for **plant** defense against pathogen attack. These responses are initiated when pathogen-derived mols. (elicitors) are recognized by the host. A strategy was developed for creating novel disease **resistance** traits whereby transgenic plants respond to infection by a virulent pathogen with the prodn. of an elicitor. Thus, transgenic tobacco plants harboring a fusion between the pathogen-inducible tobacco hsr203J gene promoter and a **Phytophthora** cryptogea gene encoding the highly active elicitor cryptogein were generated. Under noninduced conditions, the transgene was silent, and no cryptogein could be detected in the transgenic plants. In contrast, infection by the virulent fungus P. parasitica var nicotianae stimulated cryptogein prodn. that coincided with the fast induction of several defense genes at and around the infection sites. Induced elicitor prodn. resulted in a localized necrosis that resembled a P. cryptogea-induced hypersensitive response and that restricted further growth of the pathogen. The transgenic plants displayed enhanced **resistance** to fungal pathogens that were unrelated to **Phytophthora** species, such as Thielaviopsis basicola, Erysiphe cichoracearum, and Botrytis cinerea. Thus, broad-spectrum disease **resistance** of a **plant** can be generated without the constitutive synthesis of a transgene product.
RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 47 OF 136 CAPLUS COPYRIGHT 2003 ACS
AN 1999:189222 CAPLUS
DN 130:219111
TI methods for construction of pathogen-**resistant** transgenic **plant**
IN Wang, Chunlin
PA Rutgers, the State University of New Jersey, USA
SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9911806	A1	19990311	WO 1998-US17962	19980828
	W: AU, CA, JP, MX				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9891261	A1	19990322	AU 1998-91261	19980828
	US 6225528	B1	20010501	US 1998-143567	19980828
PRAI	US 1997-57510P	P	19970904		
	WO 1998-US17962	W	19980828		

AB The present invention provides pathogen-**resistant** transgenic plants and methods of making the plants. The transgenic plants display enhanced **resistance** to a variety of fungal, bacterial and viral **plant** pathogens due to expression of a gene that increases the unsatd. fatty acid content of the **plant**'s cells, as compared with an equiv., but non-**transformed plant**. The preferred embodiment of the invention is a **plant** expressing a heterologous .DELTA.-9 desaturase gene from yeast, which particularly increases cytosolic quantities of 16:1, 16:2 and 18:1 fatty acids.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 41 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:421616 BIOSIS
DN PREV200000421616
TI Expression of **resistance** to fungal diseases in transgenic plants of tomato.
AU Bressan, R.; Colucci, F.; Crino, P. (1); Hasegawa, M.; Saccardo, F.; Tucci, M.; Veronese, P.
CS (1) Biotechnology and Agriculture Division, ENEA C.R. Casaccia, Rome Italy
SO Journal of Plant Pathology, (March, 2000) Vol. 82, No. 1, pp. 78. print.
Meeting Info.: Meeting of the Italian Society for Agricultural Genetics

and the Italian Phytopathological Society Viterbo, Italy May 20-21, 1999
ISSN: 1125-4653.
DT Conference
LA English
SL English

L15 ANSWER 39 OF 136 CABA COPYRIGHT 2003 CABI
AN 2000:138646 CABA
DN 20001615912
TI Conversion of compatible **plant**-pathogen interactions into incompatible interactions by expression of the Pseudomonas syringae pv. syringae 61 hrmA gene in transgenic tobacco plants
AU Shen SongHai; Li QingShun; He ShengYang; Barker, K. R.; Li DeBao; Hunt, A. G.; Shen, S. H.; Li, Q. S.; He, S. Y.; Li, D. B.
CS Department of Agronomy, University of Kentucky, Lexington, KY 40546, USA.
SO Plant Journal, (2000) Vol. 23, No. 2, pp. 205-213. 34 ref.
ISSN: 0960-7412
DT Journal
LA English
AB The hrmA gene from Pseudomonas syringae pv. syringae has previously been shown to confer avirulence on the virulent bacterium Pseudomonas syringae pv. tabaci in all examined tobacco cultivars. We expressed this gene in tobacco (Nicotiana tabacum cv. KY14) plants under the control of the tobacco DELTA 0.3 TobRB7 promoter, which is induced upon nematode infection in tobacco roots. A basal level of hrmA expression in leaves of transgenic plants activated the expression of pathogenesis-related genes, and the transgenic plants exhibited high levels of **resistance** to multiple pathogens: tobacco vein mottling virus, tobacco etch virus, black shank fungus **Phytophthora** parasitica [**Phytophthora** nicotianae var. parasitica] isolate 62, and wild fire bacterium Pseudomonas syringae pv. tabaci. However, the hrmA transgenic plants were not significantly more **resistant** to root-knot nematodes (Meloidogyne javanica and M. hapla). Our results suggest a potential use of controlled low-level expression of bacterial avr genes, such as hrmA, in plants to generate broad-spectrum **resistance** to bacterial, fungal and viral pathogens.

L15 ANSWER 37 OF 136 CAPLUS COPYRIGHT 2003 ACS
AN 2000:807316 CAPLUS
DN 135:103108
TI Enhanced late blight **resistance** of transgenic potato expressing glucose oxidase under the control of pathogen-inducible promoter
AU Zhen, Wei; Chen, Xi; Liang, Haobo; Hu, Yuanlei; Gao, Yin; Lin, Zhongping
CS National Laboratory of Protein Engineering and Plant Genetic Engineering, Peking University, Beijing, 100871, Peop. Rep. China
SO Chinese Science Bulletin (2000), 45(21), 1982-1986
CODEN: CSBUEF; ISSN: 1001-6538
PB Science in China Press
DT Journal
LA English
AB To engineer crop disease **resistance** by utilizing natural defense mechanism that was expressed in the incompatible host-pathogen interactions is expected to result in a durable and broad-spectrum **resistance**. In order to prove this viewpoint, we amplified the coding region of the glucose oxidase (GO) gene from Aspergillus niger via PCR and fused it to the pathogen-inducible promoter, Prp1-1. The chimeric gene was cloned into a **plant** expression vector and conjugated into Agrobacterium. Twenty-three transgenic potato plants were obtained by Agrobacterium-mediated **transformation**. The integration of GO gene was confirmed by Southern hybridization and the GO gene expression was identified with KI-starch color reaction. **Phytophthora** infestans inoculation revealed that the expression of the chimeric transgene was induced by pathogen infection. Most of the transgenic plants exhibited various degrees of enhanced disease **resistance**. Four of them had lesion sizes reduced to less than half of the non-transgenic controls. One **plant** showed disease **resistance** of the hypersensitive response. These results testified the feasibility of our strategy of expressing GO transgene under the control of the disease-inducible promoter in engineering crop disease **resistance**.
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 38 OF 136 CABA COPYRIGHT 2003 CABI
AN 2001:22935 CABA
DN 20003021491
TI Transgenic plants expressing cationic peptide chimeras exhibit broad-spectrum **resistance** to phytopathogens
AU Osusky, M.; Zhou GuoQing; Osuska, L.; Hancock, R. E.; Kay, W. W.; Santosh Misra; Misra, S.; Zhou, G. Q.
CS Department of Biochemistry and Microbiology, University of Victoria, Victoria, BC V8W 3P6, Canada.

SO Nature Biotechnology, (2000) Vol. 18, No. 11, pp. 1162-1166. 43 ref.
ISSN: 1087-0156
DT Journal
LA English
AB Here we describe a strategy for engineering transgenic plants with broad-spectrum **resistance** to bacterial and fungal phytopathogens. We expressed a synthetic gene encoding a N terminus-modified, cecropin-melittin cationic peptide chimaera (MsrA1), with broad-spectrum antimicrobial activity. The synthetic gene was introduced into two potato (Solanum tuberosum) cultivars, Desiree and Russet Burbank, and stable incorporation was confirmed by PCR and DNA sequencing, and expression confirmed by reverse transcription (RT)-PCR and recovery of the biologically active peptide. The morphology and yield of transgenic Desiree plants and tubers was unaffected. Highly stringent challenges with bacterial or fungal phytopathogens (**Phytophthora** cactorum, Fusarium solani and Erwinia carotovora) demonstrated powerful **resistance**. Tubers retained their **resistance** to infectious challenge for more than a year, and did not appear to be harmful when fed to mice. Expression of msrA1 in the cultivar Russet Burbank caused a striking lesion-mimic phenotype during leaf and tuber development, indicating its utility may be cultivar specific. Given the ubiquity of antimicrobial cationic peptides as well as their inherent capacity for recombinant and combinatorial variants, this approach may potentially be used to engineer a range of disease-**resistant** plants.

L15 ANSWER 33 OF 136 CAPLUS COPYRIGHT 2003 ACS
AN 2000:140623 CAPLUS
DN 132:191902
TI Improving **plant** disease **resistance** using conventional **plant** breeding, genetic engineering, and chemical induction of the endogenous hypersensitive response
IN Ryals, John Andrew; Friedrich, Leslie Bethard; Uknes, Scott Joseph; Molina-Fernandez, Antonio; Ruess, Wilhelm; Knauf-Beiter, Gertrude; Kung, Ruth Beatrice; Kessmann, Helmut; Oostendorp, Michael
PA Novartis A.-G., Switz.
SO U.S., 73 pp., Cont.-in-part of U.S. 5,780,469.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6031153	A	20000229	US 1997-996685	19971223
	WO 9701277	A1	19970116	WO 1996-EP2672	19960620
	W: AL, AU, BB, BG, BR, CA, CN, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5780469	A	19980714	US 1996-761543	19961206
	CN 1154793	A	19970723	CN 1996-121607	19961210
	CN 1084147	B	20020508		
	US 5945437	A	19990831	US 1997-875015	19970716
	US 5986082	A	19991116	US 1997-989478	19971212
	ZA 9711558	A	19980828	ZA 1997-11558	19971223
	US 5955484	A	19990921	US 1998-67864	19980428
	US 2002152499	A1	20021017	US 2002-79035	20020219
PRAI	CH 1995-179	A	19950123		
	CH 1995-1910	A	19950629		
	CH 1995-3495	A	19951211		
	WO 1996-EP2672	A2	19960620		
	US 1996-761543	A2	19961206		
	US 1996-34378P	P	19961227		
	US 1996-34379P	P	19961227		
	US 1996-34382P	P	19961227		
	US 1997-34730P	P	19970110		
	US 1997-35021P	P	19970110		
	US 1997-35022P	P	19970110		
	US 1997-35024P	P	19970110		
	US 1997-875015	A2	19970716		
	CH 1994-1419	A	19940505		
	WO 1996-EP96	W	19960111		
	US 1996-20272P	P	19960621		
	US 1996-24883P	P	19960830		
	US 1996-33177P	P	19961213		
	US 1997-880179	A1	19970620		
	US 2000-577799	A1	20000524		

AB The present invention concerns a method of protecting plants from pathogen attack through synergistic disease **resistance** attained by applying a conventional microbicide to immunomodulated plants.

Immunomodulated plants are those in which SAR is activated and are therefore referred to as "SAR-on" plants. Immunomodulated plants may be provided in at least three different ways: by applying to plants a chem. inducer of SAR such as BTH, INA, or SA; through a selective breeding program based on constitutive expression of SAR genes and/or a disease-**resistant** phenotype; or by **transforming** plants with one or more SAR genes such as a functional form of the NIM1 gene. By concurrently applying a microbicide to an immunomodulated **plant**, disease **resistance** is unexpectedly synergistically enhanced; i.e., the level of disease **resistance** is greater than the expected additive levels of disease **resistance**.

RE.CNT 111 THERE ARE 111 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 7 OF 136 CAPLUS COPYRIGHT 2003 ACS
AN 2002:663736 CAPLUS
DN 138:12704
TI Induction of **Resistance** to **Phytophthora** in Tubers of Transgenic Potato
AU Ozeretskovskaya, O. L.; Vasyukova, N. I.; Tshalenko, G. I.; Gerasimova, N. G.; Grishanina, A. N.; Khromova, L. Ya.; Yakovleva, G. A.; Varlamov, V. P.; Skryabin, K. G.
CS Bach Institute of Biochemistry, Russian Academy of Sciences, Moscow, 119071, Russia
SO Applied Biochemistry and Microbiology (Translation of Prikladnaya Biokhimiya i Mikrobiologiya) (2002), 38(5), 470-473
CODEN: APBMAC; ISSN: 0003-6838
PB MAIK Nauka/Interperiodica Publishing
DT Journal
LA English
AB **Resistance** of transgenic cultivars based on the expression of one or more **resistance** genes is sooner or later broken by pathogens whose race-producing rates are high. Thus, combining transgenesis with elicitor-induced **resistance** is a promising approach. The elicitor-induced **resistance** is based on the expression of multiple **resistance** genes, which can prevent the adaptation of pathogens to transgenic cultivars, maintain the stability of cultivars, and increase their lifespan. In this work, we used transgenic potato cultivars Temp and Superior **transformed** with Bacillus thuringiensis .DELTA.-endotoxin gene and Luk'yanovskii **transformed** with leukocyte interferon gene. Arachidonic acid (10-8 M) and sol. chitosan (5 kDa, 100 .mu.g/mL) were used as elicitors for tuber treatment. Our data showed that pretreatment with elicitors causes a 15-25% increase in both the systemic prolonged **resistance** of potato tubers to **Phytophthora** infestans and their ability to repair mech. damage.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 25 OF 136 CABA COPYRIGHT 2003 CABI
AN 2002:17940 CABA
DN 20013168511
TI Late blight **resistant** transgenic potato expressing glucose oxidase gene
AU Zhang LiPing; Yang JingHua; Li TianRan; Yao YuQi; Zhang HeLing; Zhang, L. P.; Yang, J. H.; Li, T. R.; Yao, Y. Q.; Zhang, H. L.
CS Facuty of Life Sciences, Inner Mongolia University, Huhhot 010021, Inner Mongolia, China.
SO Journal of Hebei Agricultural University, (2001) Vol. 24, No. 2, pp. 78-86. 18 ref.
DT Journal
LA Chinese
SL English
AB Two potato cultivars (Atlantic and Shepody) were **transformed** with glucose oxidase gene from Aspergillus niger via Agrobacterium tumefaciens-mediated gene transfer. Twenty-three regenerated transgenic plants were obtained. Kanamycin **resistance**, PCR [polymerase chain reaction] amplification, nucleic acid spot hybridization, and southern blot analysis showed that the glucose oxidase gene was integrated into **transformed** potato genome. Southern blot analysis revealed the presence of 2-4 copies of glucose oxidase gene in each potato tetraploid genome. Detached transgenic potato leaves were inoculated with spores of **Phytophthora** infestans. Tests showed that the number and the size of lesions decreased, and the appearance of lesions was postponed on leaves of some transgenic lines.

L15 ANSWER 4 OF 136 CAPLUS COPYRIGHT 2003 ACS
AN 2002:84620 CAPLUS
DN 136:99367
TI hrmA gene of Pseudomonas syringae inducing systemic acquired **resistance** in transgenic plants against bacterial, fungal and viral pathogens
IN Li, Qingshun; Shen, Songhai; Hunt, Arthur G.; He, Sheng Yang

PA University of Kentucky Research University, USA
SO U.S., 20 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6342654	B1	20020129	US 1999-444412	19991122

PRAI US 1999-444412 19991122

AB The use of an avr gene hrmA of Pseudomonas syringae to induce systematic acquired **resistance** in **plant** cells, **plant** seeds, **plant** tissues is disclosed. Also disclosed is the use of low level expression of promoters in combination with the hrmA gene to provide broad-spectrum pathogen **resistance** against bacteria, fungi and viruses in **plant** cells, **plant** seeds, **plant** tissues and plants. Specifically, hrmA gene when expressed in tobacco plants generated **resistance** to Pseudomonas syringae, Tobacco Etch Virus (TEV), Tobacco Vein Mottling Virus (TVMV) and **Phytophthora** nicotianae.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 2 OF 136 CAPLUS COPYRIGHT 2003 ACS
AN 2002:220649 CAPLUS
DN 136:258344
TI Arabidopsis thaliana genes exhibiting expression altered by **oomycete** pathogen infection
IN Glazebrook, Jane; Wang, Xun; Dangl, Jeffrey L.; Eulgem, Thomas; Zhu, Tong
PA Syngenta Participations A.-G., Switz.; University of North Carolina at Chapel Hill
SO PCT Int. Appl., 605 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002022675	A2	20020321	WO 2001-US28506	20010914
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2001090813	A5	20020326	AU 2001-90813	20010914

PRAI US 2000-232778P P 20000915
US 2001-300183P P 20010622
WO 2001-US28506 W 20010914

AB Methods to identify genes, the expression of which is altered in response to pathogen infection, are provided, as well as the genes identified thereby. Arabidopsis plants of different genotypes are infected with different strains of an **oomycete**, Peronospora parasitica. RNA is isolated from each **plant**/pathogen pair and employed to prep. probes which are hybridized to a gene chip having nucleic acid sequences (probe sets) corresponding to .apprx.8200 Arabidopsis genes. Genes are then identified that are up-regulated or down-regulated in response to infection, including genes that are dependent on RPP7 or RPP8, which act via unconventional signaling cascades and are not dependent on defense regulators. Further, promoters of genes are provided that are rapidly and transiently transcribed after P. parasitica infection and are RPP7/8-dependent are significantly enriched with both novel sequence motifs and potential binding sites of known transcription factors. In addn., more than 200 genes are identified that are specifically controlled by the RPP4-dependent pathway, which mediates **resistance** of the Arabidopsis ecotype Col-0 to the Peronospora isolate Emoy2. According to their response to salicylic acid and the protein biosynthesis inhibitor cycloheximide, these genes are further subcategorized into immediate early and secondary response genes. Genes responsive to pathogen infection may be used to **transform** plants for improved **resistance** to infection.

=> d ti 51-100

L15 ANSWER 51 OF 136 CABA COPYRIGHT 2003 CABI
TI [genetic **transformation** of European chestnut (Castanea sativa Mill.)].

Transformacao genetica do castanheiro europeu (Castanea sativa Mill.).

L15 ANSWER 52 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Analysis of late blight disease **resistance** in transgenic potato plants expressing osmotin protein gene

L15 ANSWER 53 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 10
TI Reduction of lesion growth rate of late blight **plant** disease in transgenic potato expressing harpin protein.

L15 ANSWER 54 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 11
TI Pathogenesis-related proteins for the control of fungal diseases of tomato

L15 ANSWER 55 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Insect control on plants with fungal hypersensitive response elicitors

L15 ANSWER 56 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Hypersensitive response-induced pathogen **resistance** in plants by seed treatment with elicitor proteins

L15 ANSWER 57 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Genes for the synthesis of antipathogenic substances, their sequences, and their use in protecting crop plants from diseases or producing therapeutic antibiotics

L15 ANSWER 58 OF 136 CABA COPYRIGHT 2003 CABI
TI Comprehensive potato biotechnology.

L15 ANSWER 59 OF 136 AGRICOLA DUPLICATE 12
TI The incompatible interaction between **Phytophthora** parasitica var. nicotianae race 0 and tobacco is suppressed in transgenic plants expression antisense lipoxygenase sequences.

L15 ANSWER 60 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 13
TI **Resistance** of Nicotiana benthamiana to **Phytophthora** infestans is mediated by the recognition of the elicitor protein INF1.

L15 ANSWER 61 OF 136 CABA COPYRIGHT 2003 CABI
TI Recombination pathways in **Phytophthora** infestans: polyploidy resulting from aberrant sexual development and zoospore-mediated heterokaryosis.

L15 ANSWER 62 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 14
TI Transgenic potato plants expressing soybean beta-1,3-endoglucanase gene exhibit an increased **resistance** to **Phytophthora** infestans.

L15 ANSWER 63 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Activation of **plant** defense responses and sugar efflux by expression of pyruvate decarboxylase in potato leaves

L15 ANSWER 64 OF 136 CABA COPYRIGHT 2003 CABI
TI Quantification of late blight **resistance** of potato using transgenic **Phytophthora** infestans expressing beta -glucuronidase.

L15 ANSWER 65 OF 136 CABA COPYRIGHT 2003 CABI
TI Durian - sources of **resistance** to **Phytophthora** palmivora.

L15 ANSWER 66 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 15
TI Expression of a pathogenesis-related peroxidase of Stylosanthes humilis in transgenic tobacco and canola and its effect on disease development.

L15 ANSWER 67 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 16
TI Systemic induction of an Arabidopsis **plant** defensin gene promoter by tobacco mosaic virus and jasmonic acid in transgenic tobacco.

L15 ANSWER 68 OF 136 AGRICOLA DUPLICATE 17
TI **Transformation** of potato with cucumber peroxidase: expression and disease response.

L15 ANSWER 69 OF 136 CABA COPYRIGHT 2003 CABI
TI The application of biotechnology to potato.

L15 ANSWER 70 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 18
TI **Phytophthora resistance** through production of a fungal protein elicitor (beta-Cryptogein) in tobacco.

L15 ANSWER 71 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Peroxidase gene transfer for construction of fungus-**resistant** transgenic plants

L15 ANSWER 72 OF 136 AGRICOLA DUPLICATE 19
TI Mapping the elicitor and necrotic sites of **Phytophthora** elicitins with synthetic peptides and reporter genes controlled by tobacco defense gene promoters.

L15 ANSWER 73 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Characterization of acquired **resistance** in lesion-mimic transgenic potato expressing bacterio-opsin

L15 ANSWER 74 OF 136 AGRICOLA
TI Rapid and transient induction of a parsley microsomal delta 12 fatty acid desaturase mRNA by fungal elicitor.

L15 ANSWER 75 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 20
TI Synthesis of a grapevine phytoalexin in transgenic tomatoes (Lycopersicon esculentum Mill.) conditions **resistance** against **Phytophthora** infestans.

L15 ANSWER 76 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 21
TI Performance of transgenic plants of potato (Solanum tuberosum cv. Laila) grown in vitro, in greenhouse and in a field trial.

L15 ANSWER 77 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Increased levels of cytokinin induce tolerance to necrotic diseases and various oxidative stress causing agents in plants

L15 ANSWER 78 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 22
TI Constitutive expression of an inducible .beta.-1,3-glucanase in alfalfa reduces disease severity caused by the **oomycete** pathogen **Phytophthora** megasperma f. sp medicaginis, but does not reduce disease severity of chitin-containing fungi

L15 ANSWER 79 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 23
TI Localization of Ds-transposon containing T-DNA inserts in the diploid transgenic potato: Linkage to the R1 **resistance** gene against **Phytophthora** infestans (Mont.) de Bary

L15 ANSWER 80 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI In vivo and in vitro activity of truncated osmotin that is secreted into the extracellular matrix.

L15 ANSWER 81 OF 136 AGRICOLA DUPLICATE 24
TI Analysis of late-blight disease **resistance** and freezing tolerance in transgenic potato plants expressing sense and antisense genes for an osmotin-like protein.

L15 ANSWER 82 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI A benzothiadiazole derivative induces systemic acquired **resistance** in tobacco

L15 ANSWER 83 OF 136 CABA COPYRIGHT 2003 CABI
TI [Evaluation of the **resistance** of potatoes to blight using a growth chamber test].
Estimation de la **resistance** de la pomme de terre au mildiou par un test en chambre climatisee.

L15 ANSWER 84 OF 136 CABA COPYRIGHT 2003 CABI
TI Possible areas for molecular intervention for crop improvement in Hevea brasiliensis - theoretical considerations.

L15 ANSWER 85 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI **Phytophthora resistance** gene of Catharanthus and its use in **plant** breeding for improved disease **resistance** and increased alkaloid levels

L15 ANSWER 86 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Synthetic peptides, KHRKKRKAWLLALA and KAHWLRLKALAKRK, are useful fungicides especially for crop plants and are genetically expressible in **plant** or animal cells

L15 ANSWER 87 OF 136 CABA COPYRIGHT 2003 CABI
TI Creation of a metabolic sink for tryptophan alters the phenylpropanoid

pathway and the susceptibility of potato to **Phytophthora** infestans.

L15 ANSWER 88 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 25
TI Disease **resistance** conferred by expression of a gene encoding H2O2-generating glucose oxidase in transgenic potato plants

L15 ANSWER 89 OF 136 CABA COPYRIGHT 2003 CABI
TI Activation of two osmotin-like protein genes by abiotic stimuli and fungal pathogen in transgenic potato plants.

L15 ANSWER 90 OF 136 AGRICOLA DUPLICATE 26
TI Genetic localisation of **transformation** competence in diploid potato.

L15 ANSWER 91 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 27
TI Breeding rootstocks for tree fruit crops.

L15 ANSWER 92 OF 136 CABA COPYRIGHT 2003 CABI
TI Studies on elicitor-signal transduction leading to differential expression of defense genes in cultured tobacco cells.

L15 ANSWER 93 OF 136 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 28
TI Inheritance of **resistance** to cucumber mosaic virus in a transgenic tomato line expressing the coat protein gene of the white leaf strain

L15 ANSWER 94 OF 136 CABA COPYRIGHT 2003 CABI
TI [Pathological, physiological and genetic aspects of **resistance** to Colletotrichum acutatum and **Phytophthora** cactorum in strawberry].
Aspetti patologici, fisiologici e genetici della resistenza a Colletotrichum acutatum e **Phytophthora** cactorum nella fragola.

L15 ANSWER 95 OF 136 CABA COPYRIGHT 2003 CABI
TI Preparing subterranean clovers for future biotechnology: molecular analysis of genes and proteins involved in stress and defence reactions and the construction of transgenic plants.

L15 ANSWER 96 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Exogenous regulation of gene expression in plants by the elimination of a signal transduction pathway

L15 ANSWER 97 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Controlling **plant** pathogenic fungi and nematodes with ribonucleases

L15 ANSWER 98 OF 136 CAPLUS COPYRIGHT 2003 ACS
TI Method of controlling **plant** pathogenic fungi

L15 ANSWER 99 OF 136 CABA COPYRIGHT 2003 CABI
TI Inheritance of **resistance** to late blight.

L15 ANSWER 100 OF 136 CABA COPYRIGHT 2003 CABI
TI Ac-Ds transposons mapped near disease **resistance** loci for targeted tagging in potato.

=> d bib abs 98 72 70 56

L15 ANSWER 98 OF 136 CAPLUS COPYRIGHT 2003 ACS
AN 1994:476153 CAPLUS
DN 121:76153
TI Method of controlling **plant** pathogenic fungi
IN Bunkers, Gregory James; Huynh, Quang Khai; Shah, Dilipkumar Maganlal; Vu, Linh Viet
PA Monsanto Co., USA
SO PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9408010	A1	19940414	WO 1993-US7882	19930823
	W: AU, BB, BG, BR, BY, CA, CZ, FI, HU, JP, KR, KZ, LK, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9350859	A1	19940426	AU 1993-50859	19930823

ZA 9307157 A 19940714 ZA 1993-7157 19930927
PRAI US 1992-953495 A 19920928
US 1993-104771 A 19930816
WO 1993-US7882 W 19930823
AB Acidic osmotin-like proteins control fungal damage to plants. Genes encoding these proteins may be cloned into vectors for **transformation** of **plant**-colonizing microorganisms or plants, thereby providing a method of inhibiting fungal growth on plants. The protein was purified from chromatog. homogenates of overripe persimmon (Diospyros texana) and the gene cloned from a partial MboI library by screening with an N-terminal peptide-derived probe. The gene was expressed in Escherichia coli, yeast, and insect cell culture with a baculovirus system. The gene was introduced into potato and **transformed** tissue was shown to synthesize the protein by immunoassay and to increase **resistance** of **transformed** plants to infection with Phytopthora infestans. The protein was secreted into the extracellular fluid.

L15 ANSWER 72 OF 136 AGRICOLA DUPLICATE 19
AN 1998:6088 AGRICOLA
DN IND20611218
TI Mapping the elicitor and necrotic sites of **Phytophthora** elicitins with synthetic peptides and reporter genes controlled by tobacco defense gene promoters.
AU Perez, V.; Huet, J.C.; Nespoulous, C.; Pernollet, J.C.
CS INRA, Jouy-en-Josas, France.
SO Molecular plant-microbe interactions : MPMI, Aug 1997. Vol. 10, No. 6. p. 750-760
Publisher: St. Paul, MN : APS Press, [c1987-
CODEN: MPMIEL; ISSN: 0894-0282
NTE Includes references
CY Minnesota; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB Elicitins are 10-kDa proteins secreted by **Phytophthora** and Pythium fungi that elicit a hypersensitive-like necrotic reaction, leading to **resistance** against fungal and bacterial **plant** pathogens. Induction of necrosis and **resistance** were previously shown to be borne by different sites of the molecule. Furthermore, sequence comparison indicated several potential residues necessary for necrosis. The role of one of these residues was previously evidenced with site-directed mutagenesis. In order to locate other necrosis-determining sites and reveal the defense-eliciting sites, we synthesized a series of synthetic peptides. Tests were performed on two types of transgenic tobacco plants, both **transformed** with a construction containing the beta-glucuronidase reporter gene, in one case controlled by the promoter of the multiple stimulus response gene str 246C and in the other by the promoter of the pathogenesis-related gene PR1a. We report that only certain peptides were found to be active. Whereas PR1a induction was consistently correlated with induction of necrosis, four peptides were observed to induce only str 246C expression without necrosis, which led to differentiate the defense-eliciting sites from the necrotic sites. From the structure-function relationships thus obtained, two different defense pathways were inferred to be independently induced by elicitins.

L15 ANSWER 70 OF 136 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 18
AN 1998:83795 BIOSIS
DN PREV199800083795
TI **Phytophthora resistance** through production of a fungal protein elicitor (beta-Cryptogein) in tobacco.
AU Tepfer, David (1); Boutteaux, Catherine; Vigon, Catherine; Aymes, Sylvie; Perez, Valerie; O'Donohue, Michael J.; Huet, Jean-Claude; Pernollet, Jean-Claude
CS (1) Biol. Rhizopheres, INRA, Route de St. Cry, F-78026 Versailles Cedex France
SO Molecular Plant-Microbe Interactions, (Jan., 1998) Vol. 11, No. 1, pp. 64-67.
ISSN: 0894-0282.
DT Article
LA English
AB **Transformation** of tobacco with a gene encoding the fungal elicitor protein, beta-cryptogein, resulted in **resistance** to the pathogen **Phytophthora** parasitica var. nicotianae. **Resistance** was improved when the foreign gene was in the hemizygous state, and a single amino acid substitution that reduced the necrotic effects of the protein also conferred some **resistance**.

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TI Hypersensitive response-induced pathogen **resistance** in plants by seed treatment with elicitor proteins

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FAN.CNT 1

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PI WO 9824297	A1	19980611	WO 1997-US22629	19971204
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R: CH, DE, DK, ES, FR, GB, LI, NL, SE				
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AB The present invention relates to a method of imparting pathogen **resistance** to plants. This involves applying a hypersensitive response elicitor polypeptide or protein in a non-infectious form to a **plant** seed under conditions where the polypeptide or protein contacts cells of the **plant** seed. The present invention is also directed to a pathogen **resistance** imparting **plant** seed. Alternatively, transgenic **plant** seeds contg. a DNA mol. encoding a hypersensitive response elicitor polypeptide or protein can be planted in soil and a **plant** can be propagated from the planted seed under conditions effective to impart pathogen **resistance** to the **plant**. Elicitor proteins and their gene sequences are provided from Erwinia chrysanthemi, E. amylovora, Pseudomonas syringae, P. solanacearum, Xanthomonas campestris cv. glycines, and X. campestris cv. pelargonii.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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